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HEADQUARTERS UNITED STATES MARINE CORPS 3000 MARINE CORPS PENTAGON WASHINGTON, DC 20350-3000

> NAVMC 3500.12B C 465 22 Jan 2014

NAVMC 3500.12B W/CH 1-8

From: Commandant of the Marine Corps

To: Distribution List

Subj: ENGINEER AND UTILITIES TRAINING AND READINESS MANUAL

Ref: (a) MCO P3500.72A

(b) MCO 1553.3A

(c) MCO 3400.3F

(d) MCO 3500.27B W/Erratum

(e) MCRP 3-0A

(f) MCRP 3-0B

(g) MCO 1553.2B

Encl: (1) Eng & Util T&R Manual

1. <u>Purpose</u>. Per reference (a), this Training and Readiness (T&R) Manual, contained in enclosure (1), establishes training standards, regulations, and policies regarding the training of Marines in the Engineer and Utilities occupational field.

2. Cancellation. NAVMC 3500.12A

3. Scope

- a. The Core Capability Mission Essential Task List in this manual is used in Defense Readiness Reporting System (DRRS) for assessment and reporting of unit readiness. Units achieve training readiness for reporting in DRRS by gaining and sustaining proficiency in the training events in this manual at both collective (unit) and individual levels.
- b. Per reference (b), commanders will conduct an internal assessment of the unit's ability to execute its mission and develop long-, mid-, and short-range training plans to sustain proficiency and correct deficiencies. Training plans will incorporate these events to standardize training and provide objective assessment of progress toward attaining combat readiness. Commanders will keep records at the unit and individual levels to record training achievements, identify training gaps and document objective assessments of readiness associated with training Marines. Commanders will use reference (c) to incorporate Nuclear, Biological, and Chemical Defense training into training plans and reference (d) to integrate Operational Risk Management. References (e) and (f) provide amplifying information for effective planning and management of training within the unit.

NAVMC 3500.12B 22 Jan 2014

- c. Formal school and training detachment commanders will use references (a) and (g) to ensure programs of instruction meet skill-training requirements established in this manual and provide career-progression training in the events designated for initial training in the formal school environment.
- 4. <u>Information</u>. Commanding General (CG), Training and Education Command (TECOM) will update this T&R Manual as necessary to provide current and relevant training standards to commanders. All questions pertaining to Marine Corps Ground T&R Program and Unit Training Management should be directed to: CG, TECOM, Marine Air Ground Task Force Training and Education Standards Division (C 465), 1019 Elliot Road, Quantico, Virginia 22134.
- 5. Command. This manual is applicable to the Marine Corps Total Force.
- 6. Certification. Reviewed and approved this date.

T. M. MURRAY
By direction

Distribution: 10033194800

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HEADQUARTERS UNITED STATES MARINE CORPS 3000 MARINE CORPS PENTAGON WASHINGTON, DC 20350-3000

NAVMC 3500.12B Ch 8 C 466

8 Apr 2016

NAVMC 3500.12B Ch 8

From: Commandant of the Marine Corps

To: Distribution List

Subj: ENGINEER AND UTILITIES TRAINING AND READINESS MANUAL

Encl: (1) New page iii insert to NAVMC 3500.12B

(2) New Appendix E insert to NAVMC 3500.12B

1. <u>Purpose</u>. To transmit new page, and appendix insert to the basic manual.

2. <u>Scope</u> Remove page iii and replace with corresponding enclosures. Add Appendix E at the end of the manual.

3. Information

- a. The 36th Commandant's Planning Guidance directed a review of the Marine Corps plan for live, virtual, and constructive training across the Marine Air Ground Task Force.
- b. To meet the Commandant's intent, Training and Education Command (TECOM) conducted a Simulation Assessment Working Group (SAWG) for Engineers and Utilities, from 24 Aug 2015 to 4 Sep 2015. The working group was comprised of representatives from Installation and Logistics, and Subject Matter Experts from the Engineers and Utilities community.
- c. Following a thorough orientation on all ground simulation devices/systems and their capabilities, the Engineers and Utilities SAWG reviewed the T&R Manual and identified, modified, and developed training events that can be fully or partially trained to standard via simulation. These T&R events are captured in enclosure (2). These events and existing simulation capabilities will be reviewed and validated by TECOM ground Training Management Teams (TMT) on a periodic basis. Details regarding TMT procedures and the next review for the Engineers and Utilities community will be outlined in future correspondence.

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4. Filing Instructions. This change transmittal will be filed immediately following the signature page of the basic manual.

J. W. LUKEMAN By direction

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> NAVMC 3500.12B Ch 7 C 466 22 Jan 2016

NAVMC 3500.12B Ch 7

From: Commandant of the Marine Corps

To: Distribution List

Subj: ENGINEER AND UTLITIES TRAINING AND READINESS MANUAL

Encl: (1) Chapter 18 modification

1. <u>Purpose</u>. To transmit new chapter replacements to the basic manual.

- 2. <u>Scope</u>. Chapter 18 has been updated with specified Military Occupational Specialty 1345 1000 and 2000-level tasks.
- 3. <u>Information</u>. This change is the result of an out of cycle Training and Readiness Manual review by the occupational field advocate and reflects substantive changes to 1000 and 2000-level events taught at the Formal School. The increased specificity of the requisite skills will ensure greater uniformity in training and certification across the operating forces and within the Formal School.
- 4. <u>Filing Instructions</u>. This change transmittal will be filed immediately following the signature page of the basic manual.

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NAVMC 3500.12B Ch 6 C 466 29 Dec 2015

NAVMC 3500.12B Ch 6

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To: Distribution List

Subj: ENGINEER AND UTLITIES TRAINING AND READINESS MANUAL

Encl: (1) Chapter 21 modification

1. Purpose. To transmit new chapter replacements to the basic manual.

- 2. <u>Scope</u>. Chapter 21 has been updated with specified Military Occupational Specialty (MOS) 1371 2000-level supervisory tasks.
- 3. <u>Information</u>. This change is the result of an out of cycle Training and Readiness Manual review by the occupational field advocate and reflects substantive changes to 2000-level events taught at the Formal School. The addition of 2500-level Core Plus Skills have also been incorporated into this chapter. The increased specificity of the requisite skills will ensure greater uniformity in training and certification across the operating forces and within the Formal School.
- 4. Filing Instructions. This change transmittal will be filed immediately following the signature page of the basic manual.

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> NAVMC 3500.12B Ch 5 C 466 25 Sep 2015

NAVMC 3500.12B Ch 5

From: Commandant of the Marine Corps

To: Distribution List

Subj: ENGINEER AND UTILITIES TRAINING AND READINESS MANUAL

Encl: (1) New page iv inset to NAVMC 3500.12B

(2) New Chapter 1 insert to NAVMC 3500.12B

- (3) New Chapter 13 insert to NAVMC 3500.12B
- (4) New Chapter 21 insert to NAVMC 3500.12B
- (5) New Chapter 22 insert to NAVMC 3500.12B
- (6) New Appendix D insert to NAVMC 3500.12B
- 1. <u>Purpose</u>. To transmit new page, chapters, and appendix inserts to the basic manual.
- 2. <u>Scope.</u> Remove page iv and chapters 1, 13, 21, and 22 and replace with corresponding enclosures. Add Appendix D at the end of the manual.

3. Information

- a. This change is the result of an out-of-cycle Training and Readiness Manual review conducted by Training and Education Command (TECOM); Deputy Commandant for Plans, Policies, and Operations (PP&O); and the Operating Forces.
- b. National Defense Authorization Act FY 15 directs the services to develop gender-neutral occupational standards, which accurately predict performance of actual, regular, and recurring duties of a military occupation, and are applied equitably to measure individual capabilities. TECOM, in coordination with the OCCFLD Advocates, the Operating Forces, and the Supporting Establishments, developed Military Occupational Specialty (MOS)-specific physical standards, which were approved on 20 August 2015.
- c. A new paragraph has been inserted within Chapter 1 describing MOS-specific physical standards, which are found within the administrative instructions pertaining to particular

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NAVMC 3500.12B Ch 5 25 Sep 2015

Chapter 1, 13, 21, and 22 Events. These MOS-specific physical standards are described in detail within Appendix D, and must be demonstrated in order to achieve MOS-qualification.

4. <u>Filing Instructions</u>. This change transmittal will be filed immediately following the signature page of the basic Manual.

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Subj: ENGINEER AND UTLITIES TRAINING AND READINESS MANUAL

Encl: (1) Chapter 17 replacement

(2) Chapter 21 replacement

1. <u>Purpose</u>. To transmit new chapter replacements to the basic manual.

- 2. Scope. Remove Chapters 17 and 21 of the basic manual and replace with the penclosed revised Chapters 17 and 21.
- 3. <u>Information</u>. This change is the result of an out of cycle Training and Readiness Manual review by the occupational field advocate and refuects substantive changes to 1000-level events taught at the Formal Learning Center. The increased specificity of the requisite skills will ensure greater uniformity in training and certification across the operating forces and within the formal learning center.
- 4. <u>Filing Instructions</u>. This change transmittal will be filed immediately following the signature page of the basic manual.

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> NAVMC 3500.12B Ch 3 C 466 24 Nov 2014

NAVMC 3500.12B Ch 3

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Subj: ENGINEER AND UTILITIES TRAINING AND READINESS MANUAL

Encl: (1) Chapter 20 replacement

- 1. <u>Purpose</u>. To direct deletion of one event and creation of one event within Chapter 20 of the basic manual.
- 2. $\underline{\text{Scope}}$. Remove Chapter 20 of the basic manual and replace it with the enclosed Chapter 20.
- 3. <u>Information</u>. This change reflects requisite entry-level training vice career-progression training for Marines assigned the Marine Occupational Specialty 1361, Engineer Assistant.
- 4. <u>Filing Instructions</u>. This change transmittal will be filed immediately following the signature page of the basic manual.

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NAVMC 3500.12B Ch 2

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Subj: ENGINEER AND UTILITIES TRAINING AND READINESS MANUAL

- 1. Purpose. To direct one pen change of one event in chapter 18 of the basic manual.
- 2. <u>Scope</u>. On page 18-14, strike through initial training setting "FORMAL" and replace with "MOJT".
- 3. <u>Information</u>. This change reflects the hydraulic excavator operator and maintainer training that is to be taught using on the job training designation vice formal school designation at the Engineer Equipment Instruction Company, Fort Leonard Wood, MO.
- 4. Filing Instructions. This change transmittal will be filed immediately following the signature page of the basic manual.

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NAVMC 3500.12B Ch 1 C 466 2 ô JUN 2014

NAVMC 3500.12B Ch 1

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Subj: ENGINEER AND UTILITIES TRAINING AND READINESS MANUAL

Encl: (1) New page insert to NAVMC 3500.12B

1. <u>Purpose</u>. To direct pen changes, and the modification of one event in chapter 21 of the basic manual.

2. Scope

- a. On page 21-3, strike through event "1371-MOBL-1007, Operate a robot".
- b. On page 21-5, insert event "1371-MOBL-2035, Operate a robot" at the bottom of the matrix.
- c. On page 21-23, strike through event and content of "1371-MOBL-1007".
 - d. Remove page 21-90 and replace with the enclosed pages.
- 3. <u>Information</u>. This change is an administrative modification due to incorrect numbering during the staffing process.
- 4. <u>Filing Instructions</u>. This change transmittal will be filed immediately following the signature page of the basic manual.

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LOCATOR SHEET

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RECORD OF CHANGES

Log completed change action as indicated.

Change	Date of	Date	Signature of Person
Number	Change	Entered	Incorporating Change

ENGINEER & UTILITY T&R MANUAL

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ENG & UTIL T&R MANUAL

CHAPTER 1

OVERVIEW

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ENG & UTIL T&R MANUAL

CHAPTER 1

OVERVIEW

1000. INTRODUCTION

- 1. The T&R Program is the Corps' primary tool for planning, conducting and evaluating training and assessing training readiness. Subject matter experts (SMEs) from the operating forces developed core capability Mission Essential Task Lists (METLs) for ground communities derived from the Marine Corps Task List (MCTL). This T&R Manual is built around these METLs and other related Marine Corps Tasks (MCT). All events contained in the manual relate directly to these METLs and MCTs. This comprehensive T&R Program will help to ensure the Marine Corps continues to improve its combat readiness by training more efficiently and effectively. Ultimately, this will enhance the Marine Corps ability to accomplish real-world missions.
- 2. The T&R Manual contains the individual and collective training requirements to prepare units to accomplish their combat mission. The T&R Manual is not intended to be an encyclopedia that contains every minute detail of how to accomplish training. Instead, it identifies the minimum standards that Marines must be able to perform in combat. The T&R Manual is a fundamental tool for commanders to build and maintain unit combat readiness. Using this tool, leaders can construct and execute an effective training plan that supports the unit's METL. More detailed information on the Marine Corps Ground T&R Program is found in reference (a).
- 3. The T&R Manual is designed for use by unit commanders to determine predeployment training requirements in preparation for training and for Formal Learning Centers and Training Detachments to create courses of instruction. This directive focuses on collective tasks performed by operating forces (OPFOR) units and supervised by personnel in the performance of unit Mission Essential Tasks (METs).

1001. UNIT TRAINING

1. The training of Marines to perform as an integrated unit in combat lies at the heart of the T&R program. Unit and individual readiness are directly related. Individual training and the mastery of individual core skills serve as the building blocks for unit combat readiness. A Marine's ability to perform critical skills required in combat is essential. However, it is not necessary to have all individuals within a unit fully trained in order for that organization to accomplish its assigned tasks. Manpower shortfalls, temporary assignments, leave, or other factors outside the commander's control, often affect the ability to conduct individual training. During these periods, unit readiness is enhanced if emphasis is placed on the individual training of Marines on-hand. Subsequently, these Marines will be mission ready and capable of executing as part of a team when the full complement of personnel is available.

- 2. Commanders will ensure that all tactical training is focused on their combat mission. The T&R Manual is a tool to help develop the unit's training plan. In most cases, unit training should focus on achieving unit proficiency in the core METL. However, commanders will adjust their training focus to support METLs associated with a major OPLAN/CONPLAN or named operation as designated by their higher commander and reported accordingly in the DRRS. Tactical training will support the METL in use by the commander and be tailored to meet T&R standards. Commanders at all levels are responsible for effective combat training. The conduct of training in a professional manner consistent with Marine Corps standards cannot be over emphasized.
- 3. Commanders will provide personnel the opportunity to attend formal and operational level courses of instruction as required by this manual. Attendance at all formal courses must enhance the warfighting capabilities of the unit as determined by the unit commander.

1002. UNIT TRAINING MANAGEMENT

- 1. Unit Training Management (UTM) is the application of the Systems Approach to Training (SAT) and the Marine Corps Training Principles. This is accomplished in a manner that maximizes training results and focuses the training priorities of the unit in preparation for the conduct of its wartime mission.
- 2. UTM techniques, described in references (b) and (e), provide commanders with the requisite tools and techniques to analyze, design, develop, implement, and evaluate the training of their unit. The Marine Corps Training Principles, explained in reference (b), provide sound and proven direction and are flexible enough to accommodate the demands of local conditions. These principles are not inclusive, nor do they guarantee success. They are guides that commanders can use to manage unit-training programs. The Marine Corps training principles are:
 - Train as you fight
 - Make commanders responsible for training
 - Use standards-based training
 - Use performance-oriented training
 - Use mission-oriented training
 - Train the MAGTF to fight as a combined arms team
 - Train to sustain proficiency
 - Train to challenge
- 3. To maintain an efficient and effective training program, leaders at every level must understand and implement UTM. Guidance for UTM and the process for establishing effective programs are contained in references (b), (e) and (f).

1003. SUSTAINMENT AND EVALUATION OF TRAINING

- 1. The evaluation of training is necessary to properly prepare Marines for combat. Evaluations are either formal or informal, and performed by members of the unit (internal evaluation) or from an external command (external evaluation).
- 2. Marines are expected to maintain proficiency in the training events for their MOS at the appropriate grade or billet to which assigned. Leaders are responsible for recording the training achievements of their Marines. Whether it involves individual or collective training events, they must ensure proficiency is sustained by requiring retraining of each event at or before expiration of the designated sustainment interval. Performance of the training event, however, is not sufficient to ensure combat readiness. Leaders at all levels must evaluate the performance of their Marines and the unit as they complete training events, and only record successful accomplishment of training based upon the evaluation. The goal of evaluation is to ensure that correct methods are employed to achieve the desired standard, or the Marines understand how they need to improve in order to attain the standard. Leaders must determine whether credit for completing a training event is recorded if the standard was not achieved. While successful accomplishment is desired, debriefing of errors can result in successful learning that will allow ethical recording of training event completion. Evaluation is a continuous process that is integral to training management and is conducted by leaders at every level and during all phases of planning and the conduct of training. To ensure training is efficient and effective, evaluation is an integral part of the training plan. Ultimately, leaders remain responsible for determining if the training was effective.
- 3. The purpose of formal and informal evaluation is to provide commanders with a process to determine a unit's/Marine's proficiency in the tasks that must be performed in combat. Informal evaluations are conducted during every training evolution. Formal evaluations are often scenario-based, focused on the unit's METs, based on collective training standards, and usually conducted during higher-level collective events. References (a) and (f) provide further guidance on the conduct of informal and formal evaluations using the Marine Corps Ground T&R Program.
- 1004. ORGANIZATION. The Engineer & Utilities T&R Manual is comprised of 24 chapters and XX appendices. Chapter 1 is an overview of the Ground T&R Program. Chapter 2 lists the Core Capability METLs and their related Battalion, Company, Platoon, Squad/Section and Team level events. Chapters 3-6 contain collective events from the Team (3000-level), Section (4000-level), Platoon (5000-level), Company (6000-level) and Battalion (7000-level). The collective events are separated by battalions. Chapter 3 = CAB, 4 = CEB, 5 = CLB and 6 = ESB. Chapters 7 through 24 contain individual events.
- 1005. T&R EVENT CODING. An event contained within a T&R Manual is an individual or collective training standard. This section explains each of the components of a T&R event. These items will be included in all of the events in each T&R Manual. Community-based T&R Manuals may have several additional components not found in unit-based T&R Manuals. The event

condition, event title (behavior) and event standard should be read together as a grammatical sentence.

- 1. Event Code. The event code is an up to 4-4-4 alphanumeric character set: a. First up to 4 characters indicate MOS or Community (e.g., 0321, 1812 or INTL)
- b. Second up to 4 characters indicate functional or duty area (e.g. DEF, 206 FSPT, MVMT, etc.)
- c. Third 4 characters indicate the unit size and supported unit, if applicable (1000 through 9000), and sequence. Figure 1-1 shows the relationship of unit size to event code. NOTE: The titles for the various echelons are for example only, and are not exclusive. For example: 4000-evel events are appropriate for Section-level events as noted, but also for Squad-level events.

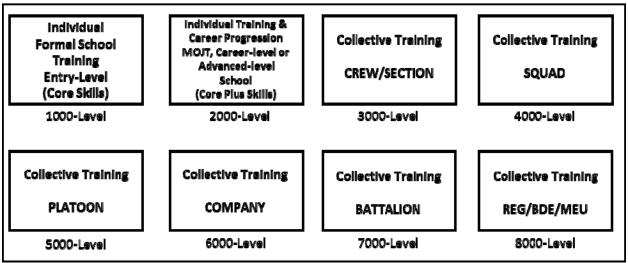


Figure 1-1: T&R Event Levels

- (1) <u>Grouping</u>. Categorizing events with the use of a recognizable code makes the type of skill or capability being referenced fairly obvious. Examples include: PAT for patrolling events, DEF for events in the defense, FSPT for events related to fire support, etc. There is no special significance to the functional areas, but they should be intuitive to make it as easy as possible for the T&R user to find events. When organizing the T&R manual, functional areas are alphabetized then the associated events are numbered. The events will be numbered based upon the introduction of each new functional area, allowing up to "999" events. For example: if there are seven Administrative events 4431 occupational field, then the events should start 4431-ADMN-1001 and run through 1007. Next, the Bulk Fuel events, FUEL should start at 4431-FUEL-1001.
- (2) <u>Sequencing</u>. A numerical code is assigned to each individual (1000-2000-level) or collective (3000-9000-level) training event. The first number identifies the size of the unit performing the event, as depicted in figure 1-1. The second number is available for T&R Manuals with collective events that support those in other manuals to identify the echelon of unit

being supported by a particular collective event. If a collective event is supported by other events or is performed in general support without regard to echelon, then a zero "0" will be utilized as the second number. For example: 0231-TGT-3801 would refer to an event conducted by a four Marine Targeting Cell supporting a Regiment or Group, 0231-TGT-3001 would represent an event the Targeting Cell does in support of any sized unit. The event would not be labeled 0231-TGT-8001 because that would imply that a regiment sized targeting unit was performing some task. This is not possible, since no intelligence unit organizes in a unit larger than a Battalion. EXCEPTION: Events that relate to staff planning, to the conduct of a command operations center or to staff level decision making processes will be numbered according to the level of the unit to which the staff belongs. For example: an infantry battalion staff conducting planning for an offensive attack would be labeled as INF-PLAN-7001 even though the entire battalion is not actively involved in the planning of the operation. T&R event sequence numbers that begin with "9" are reserved for Marine Air Ground Task Forces (MAGTF) Command Element (CE) events. Marine Expeditionary Units (MEU) CE events will be numbered 90XX - 93XX. Marine Expeditionary Brigade (MEB) CE events will be numbered 94XX - 96XX. Marine Expeditionary Force (MEF) CE events will be numbered 97XX - 99XX.

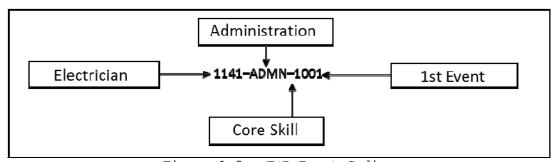


Figure 1-2: T&R Event Coding

1006. COMBAT READINESS PERCENTAGE

- 1. The Marine Corps Ground T&R Program includes processes to assess readiness of units and individual Marines. Every unit in the Marine Corps maintains a basic level of readiness based on the training and experience of the Marines in the unit. Even units that never trained together are capable of accomplishing some portion of their missions. Combat readiness assessment does not associate a quantitative value for this baseline of readiness, but uses a "Combat Readiness Percentage", as a method to provide a concise descriptor of the recent training accomplishments of units and Marines.
- 2. Combat Readiness Percentage (CRP) is the percentage of required training events that a unit or Marine accomplishes within specified sustainment intervals.
- 3. Unit combat readiness is assessed as a percentage of the successfully completed and current (within sustainment interval) key training events called "Evaluation-Coded" (E-Coded) Events. E-Coded Events and unit CRP calculation are described in follow-on paragraphs. CRP achieved through the

completion of E-Coded Events is directly relevant to readiness assessment in DRRS.

4. Individual combat readiness is assessed as the percentage of required individual events in which a Marine is current. This translates as the percentage of training events for his/her MOS and grade that the Marine successfully completes within the directed sustainment interval. Individual skills are developed through a combination of 1000-level training (entry-level formal school courses), individual on-the-job training in 2000-level events, and follow-on formal school training. Skill proficiency is maintained by retraining in each event per the specified sustainment interval.

1007. CRP CALCULATION

- 1. Collective training begins at the 3000-level (team, crew or equivalent). Unit training plans are designed to accomplish the events that support the unit METL while simultaneously sustaining proficiency in individual core skills. E-Coded collective events are the only events that contribute to unit CRP. This is done to assist commanders in prioritizing the training toward the METL, taking into account resource, time, and personnel constraints.
- 2. Unit CRP increases after the completion of E-Coded events. The number of E-Coded events for the MET determines the value of each E-Coded event. For example, if there are 4 E-Coded events for a MET, each is worth 25% of MET CRP. MET CRP is calculated by adding the percentage of each completed and current (within sustainment interval) E-Coded training event. The percentage for each MET is calculated the same way and all are added together and divided by the number of METS to determine unit CRP. For ease of calculation, we will say that each MET has four E-Coded events, each contributing 25% towards the completion of the MET. If the unit has completed and is current on three of the four E-Coded events for a given MET, then they have completed 75% of the MET. The CRP for each MET is added together and divided by the number of METS to get unit CRP; unit CRP is the average of MET CRP.

For Example:

```
MET 1: 75% complete (3 of 4 E-Coded events trained)
MET 2: 100% complete (6 of 6 E-Coded events trained)
MET 3: 25% complete (1 of 4 E-Coded events trained)
MET 4: 50% complete (2 of 4 E-Coded events trained)
MET 5: 75% complete (3 of 4 E-Coded events trained)
```

To get unit CRP, simply add the CRP for each MET and divide by the number of METS:

```
MET CRP: 75 + 100 + 25 + 50 + 75 = 325
```

Unit CRP: 325 (total MET CRP)/5 (total number of METS) = 65%

1008. T&R EVENT COMPOSITION

- 1. Event Code. The event code is explained in paragraph 1005.
- 2. <u>Event Title</u>. The name of the event. The event title contains one action verb and ideally, one object.
- 3. Evaluation Coded. Collective events categorize the capabilities that a given unit may be expected to perform. There are some collective events that the Marine Corps has determined that a unit MUST be able to perform, if that unit is to be considered fully ready for operations. These Evaluation-Coded, or E-Coded events represent the irreducible minimum or the floor of readiness for a unit. E-Coded events are derived from the training measures of effectiveness for the Mission Essential Tasks for units that must report readiness in the DRRS. It would seem intuitive that most E-Coded events would be for Battalion sized units and higher since those are the units that report in DRRS. However, if the Marine Corps has determined that the readiness of a subordinate, supporting unit to accomplish a particular collective event is vital to the accomplishment of the supported unit's MET, then that lower echelon collective event is E-Coded.
- 4. <u>Supported MET(s)</u>. List all METs that are supported by the training event in the judgment of the occupation field drafting the T&R Manual, even if those events are not listed as Measure of Effectiveness (MOEs) in a MET.
- 5. <u>Sustainment Interval</u>. This is the period, expressed in number of months, between evaluation or retraining requirements. Skills and capabilities acquired through the accomplishment of training events are refreshed at predetermined intervals. It is essential that these intervals are adhered to in order to ensure Marines maintain proficiency.
- 6. <u>Billet/MOS</u>. Each individual training event will contain a billet code and/or MOS that designates who is responsible for performing that event and any corresponding formal course required for that billet. Each commander has the flexibility to shift responsibilities based on the organization of his command. These codes are based on recommendations from the collective subject matter expertise that developed this manual and are listed for each event.
- 7. <u>Grade</u>. The Grade field indicates the rank at which Marines are required to complete the event.
- 8. <u>Description</u>. This field allows T&R developers to include an explanation of event purpose, objectives, goals, and requirements. It is a general description of an action requiring learned skills and knowledge, i.e., engage fixed target with crew-served weapons. This is an optional field for individual events but it use is strongly encouraged for collective events. This field can be of great value guiding a formal learning center or OPFOR unit trying to discern the intent behind an event that might not be readily apparent.
- 9. <u>Condition</u>. Condition refers to the constraints that may affect event performance in a real-world environment. It indicates what is provided (equipment, tools, materials, manuals, aids, etc.), environmental constraints

or conditions under which the task is to be performed, and any specific cues or indicators to which the performer must respond. Commanders can modify the conditions of the event to best prepare their Marines to accomplish the assigned mission (e.g. in a desert environment; in a mountain environment; etc.). When resources or safety requirements limit the conditions, this should be stated. The content of the condition should be included in the event on a "by exception" basis. If there exists an assumption regarding the conditions under which all or most of the events in the manual will be performed, then only those additional or exceptional items required should be listed in the condition. The common conditions under which all the events in a chapter will be executed will be listed as a separate paragraph at the beginning of the chapter.

- 10. <u>Standard</u>. The performance standard indicates the basis for judging the effectiveness of the performance. It consists of a carefully worded statement that identifies the proficiency level expected when the task is performed. The standard provides the minimum acceptable performance parameters and must be strictly adhered to. The standard for collective events will likely be general, describing the desired end-state or purpose of the event. The standard for individual events will be objective, quantifiable, and readily observable. Standards will more specifically describe to what proficiency level, specified in terms of accuracy, completeness, time required, and sequencing the event is to be accomplished. These guidelines can be summarized in the acronym "ACTS" (Accuracy Completeness Time Sequence). In no cases will "per the reference" or "per/in accordance with commander's intent" be used as a stand-alone standard.
- 11. Event Components/Performance Steps. Description of the actions that the event is composed of, or a list of subordinate, included T&R event codes and event descriptions. The event components help the user determine what must be accomplished and to properly plan for the event. Event components are used for collective events; performance steps are used for individual events.
- a. The event components and performance steps will be consciously written so that they may be employed as performance evaluation check lists by the operating forces.
- b. Event components may be events one individual in the unit performs, events that small groups in the unit perform, or events involving the entire unit. After the publication of this order, all component events will identify the behaviors required in plain English but also by citing the precise event number the component event refers to, unless that component event only occurs as part of the collective event where it is listed. This provision will allow for specific events to be chained together in order to provide greater granularity for units and Marines executing the events, and clarity for those charged with evaluating unit performance.
- 12. <u>Prerequisite Events</u>. Prerequisites are academic training or other T&R events that must be completed prior to attempting the task. They are lower-level events or tasks that give the individual/unit the skills required to accomplish the event. They can also be planning steps, administrative

requirements, or specific parameters that build toward mission accomplishment.

- 13. <u>Chained Events</u>. Collective T&R events are supported by lower-level collective and individual T&R events. This enables unit leaders to effectively identify subordinate T&R events that ultimately support specific mission essential tasks. When the accomplishment of any upper-level events, by their nature, result in the performance of certain subordinate and related events, the events are "chained." The completion of chained events will update sustainment interval credit (and CRP for E-Coded events) for the related subordinate level events.
- 14. Related ITEs. A list of all of the Individual Training Events (1000-2000-level events) that support the event.
- 15. <u>Initial Training Setting</u>. All individual events will designate the setting at which the skill is first taught, either at formal learning center (FLC), in the OPFOR as MOJT, or via a distance learning product (DL).
- 16. <u>References</u>. The training references shall be utilized to determine task performance steps. They assist the trainee in satisfying the performance standards, or the trainer in evaluating the effectiveness of task completion. T&R Manuals are designed to be a training outline, not to replicate or replace doctrinal publications, reference publications or technical manuals. References are key to developing detailed lesson plans, determining grading criteria, and ensuring standardization of training.
- 17. <u>Distance Learning Products</u> Distance learning products include: Individual Multimedia Instruction (IMI), Computer-Based Training (CBT), Marine Corps Institute (MCI), etc. This notation is included when, in the opinion of the TRMG in consultation with the MTSD representative, the event can be taught via one of these media vice attending a formal course of instruction or receiving MOJT.
- 18. Support Requirements. This is a list of the external and internal support the unit and Marines will need to complete the event. This is a key section in the overall T&R effort, as resources will eventually be tied directly to the training towards METS. Future efforts to attain and allocate resources will be based on the requirements outlined in the T&R Manual. The list includes, but is not limited to:
 - •Range(s)/Training Area
 - •Ordnance
 - \bullet Equipment
 - •Materials
 - •Other Units/Personnel

The ordnance requirements for one year of training for the events in the T&R will be aggregated into a table contained in an appendix to the T&R. The task analyst and the occupational field representatives will be careful not to "double count" ammunition that might be employed in the performance of individual and collective events that are chained.

19. <u>Suitability of Simulation/Simulators/DL products</u>. If the TRMG determines that an event can be trained to standard by use of simulation, simulator or a DL product, this will be noted in the event title in a parenthetical remark. Figure 1-3 contains all acceptable codes. The specific simulation, simulator or DL product that is acceptable for training will be noted in the description block and in Supporting Requirements block.

Code	Requirement
L	Event able to be performed to standard only live environment
S	Event performed with simulation and/or simulator, particularly when it is unsafe to conduct the training in a live environment and when supporting live training used as a capstone event to a training continuum that includes academics, simulation-based, and live training
S/L	Event performed with simulation and/or simulator preferred/live optional. If the resources available do not allow for live training to occur, simulation-based training can assist in maintaining proficiency and provide a means to temporarily fill those identified training gaps.
DL	Event shall be performed by self-paced, technology-enabled training (i.e. MarineNet)
DL/L	Event may be performed by self-paced, technology enabled training or in a live environment

Figure 1-3: Acceptable Codes

20. Miscellaneous

- a. This field provides space for any additional information that will assist in the planning and execution of the event. Units and FLCS are cautioned not to disregard this information or to consider the information of lesser importance than what is contained in other parts of the T&R event. Miscellaneous fields provide an opportunity for the drafters of the T&R event to communicate vital information that might not fit neatly into any other available field. The list may include, but is not limited to:
 - •Admin Instructions
 - •Special Personnel Certifications
 - Equipment Operating Hours
 - •Road Miles
 - b. An example of a T&R event is provided in figure 1-4.

0321-PAT-4101 Conduct Team Planning

EVALUATION CODED: YES SUPPORTED MET(S): 1, 2, 3, 4, 5, 6, 7, 8, 9

<u>DESCRIPTION</u>: The unit is conducting tactical operations. The unit has been issued a warning order to conduct reconnaissance patrols to collect information and to conduct normal security patrols. The patrol will be conducted on a 24-hour basis. This event may be trained to standard using the XYZ simulation program available at all MISTC locations.

CONDITION: When given a Warning Order, Patrol Order or Frag Order.

STANDARD: Prior to commencement of exercise or operation, so that subordinates have 2/3 of the total time before step-off for planning, to include all elements of the plan.

EVENT COMPONENTS:

- 1. Receive Warning Order or Patrol Order.
- 2. Analyze for Mission using commander's guidance, METT-TSL, KOCOA.
- 3. Analyze the mission and available information to identify specific tasks with respect to commander's guidance, METT-TSL and KOCOA.
- 4. Create the plan.

RELATED ITES:

 0321-PAT -1102
 0321-PAT -1101
 0321-COMM-1207
 0321-FSPT-2301

 0321-FSPT-2302
 0321-FSPT-2303
 0321-SURV-1403

REFERENCES:

- 1. FMFM 6-4 Marine Rifle Company
- 2. MCWP 3-11.3 Scouting and Patrolling
- 3. MCRP 2-15.1 DRAFT Ground Reconnaissance Handbook

Figure 1-4: Example of a T&R Event

1009. CHEMICAL BIOLOGICAL RADIOLOGICAL NUCLEAR (CBRN) TRAINING

- 1. All personnel assigned to the operating force must be trained in Chemical, Biological, Radiological, and Nuclear (CBRN) defense, in order to survive and continue their mission in this environment. Individual proficiency standards are defined as survival and basic operating standards. Survival standards are those that the individual must master in order to survive CBRN attacks. Basic operating standards are those that the individual, and collectively the unit, must perform to continue operations in a CBRN environment.
- 2. In order to develop and maintain the ability to operate in a CBRN environment, CBRN training is an integral part of the training plan and events in this T&R Manual. Units should train under CBRN conditions whenever possible. Per reference (c), all units must be capable of accomplishing their assigned mission in a contaminated environment.

1010. NIGHT TRAINING

- 1. While it is understood that all personnel and units of the operating force are capable of performing their assigned mission in "every climate and place," current doctrine emphasizes the requirement to perform assigned missions at night and during periods of limited visibility. Basic skills are significantly more difficult when visibility is limited.
- 2. To ensure units are capable of accomplishing their mission they must train under the conditions of limited visibility. Units should strive to conduct all events in this T&R Manual during both day and night/limited visibility conditions. When there is limited training time available, night training should take precedence over daylight training, contingent on the availability of equipment and personnel.

1011. MOS-SPECIFIC PHYSICAL STANDARDS

- 1. Within the Combat Engineer community, certain Marines are required to demonstrate a high degree of physical strength in order to perform those regularly assigned, recurrent duties of each of the Assault Amphibian's military occupational specialties (MOSs).
- 2. This T&R Manual contains MOS-specific physical standards, which must be demonstrated, in order to achieve MOS qualification, sustainment, and continuation. These MOS-specific physical standards have been identified throughout this T&R manual within the administrative instructions to the event.
- 3. Assessments for MOS-specific physical standards have been developed and are contained within Appendix E. These assessments provide Commanders reasonable assurance a Marine has the physical capacity to perform the regularly assigned and recurrent duties of the MOS.
- 4. These MOS-specific physical standards are not the sole requirement for MOS qualification, sustainment, or continuation.

1012. OPERATIONAL RISK MANAGEMENT (ORM)

- 1. ORM is a process that enables commanders to plan for and minimize risk while still accomplishing the mission. It is a decision making tool used by Marines at all levels to increase operational effectiveness by anticipating hazards and reducing the potential for loss, thereby increasing the probability of a successful mission. ORM minimizes risks to acceptable levels, commensurate with mission accomplishment.
- 2. Commanders, leaders, maintainers, planners, and schedulers will integrate risk assessment in the decision-making process and implement hazard controls to reduce risk to acceptable levels. Applying the ORM process will reduce mishaps, lower costs, and provide for more efficient use of resources. ORM assists the commander in conserving lives and resources and avoiding unnecessary risk, making an informed decision to implement a Course of Action (COA), identifying feasible and effective control measures where specific measures do not exist, and providing reasonable alternatives for mission accomplishment. Most importantly, ORM assists the commander in determining the balance between training realism and unnecessary risks in training, the

impact of training operations on the environment, and the adjustment of training plans to fit the level of proficiency and experience of Sailors/Marines and leaders. Further guidance for ORM is found in references (b) and (d).

1013. MARINE CORPS GROUND T&R PROGRAM

- 1. The Marine Corps Ground T&R Program continues to evolve. The vision for Ground T&R Program is to publish a T&R Manual for every readiness-reporting unit so that core capability METs are clearly defined with supporting collective training standards, and to publish community-based T&R Manuals for all occupational fields whose personnel augment other units to increase their combat and/or logistic capabilities. The vision for this program includes plans to provide a Marine Corps training management information system that enables tracking of unit and individual training accomplishments by unit commanders and small unit leaders, automatically computing CRP for both units and individual Marines based upon MOS and rank (or billet). Linkage of T&R Events to the Marine Corps Task List (MCTL), through the core capability METs, has enabled objective assessment of training readiness in the DRRS.
- 2. DRRS measures and reports on the readiness of military forces and the supporting infrastructure to meet missions and goals assigned by the Secretary of Defense. With unit CRP based on the unit's training toward its METs, the CRP will provide a more accurate picture of a unit's readiness. This will give fidelity to future funding requests and factor into the allocation of resources. Additionally, the Ground T&R Program will help to ensure training remains focused on mission accomplishment and that training readiness reporting is tied to units' METLs.

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CHAPTER 2

MISSION-ESSENTIAL TASKS MATRIX

	PAR	<u> AGRAPH</u>	PAGE
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COMBAT ASSAULT BATTALION CORE MISSION ESSENTIAL TASK LIST.		2001	2-2
COMBAT ENGINEER BATTALION (CEB) CORE MISSION ESSENTIAL TASK LIST		2002	2-7
DIRECT SUPPORT (DS) COMBAT LOGISTICS BATTALION (CLB) CORE. MISSION ESSENTIAL TASK LIST		2003	2-11
ENGINEER SUPPORT BATTALION (ESB CORE) MISSION ESSENTIAL TASK LIST		2004	2-13

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CHAPTER 2

MISSION-ESSENTIAL TASKS MATRIX

2000. MISSION ESSENTIAL TASK LIST (METL) FOR ALL ENGINEER UNITS. The METL Table for all engineer units lists the Standardized Core Mission-Essential Tasks (MET), derived from the Marine Corps Task List (MCTL), for the CAB, CEB, CLB and ESB. This METL is used for readiness reporting in the Defense Readiness Reporting System (DRRS).

ENGINEER CORE MISSION ESSENTIAL TASKS

MARINE CORPS TASK LIST	ENGINEER UNITS CORE METL
MCT 1.1.2	Provide Task-Organized Forces
MCT 1.12.1	Conduct Amphibious Operations
MCT 1.4.1	Conduct Mobility Operations
MCT 1.4.2	Conduct Counter-Mobility Operations
MCT 2.2.2	Provide and Maintain Engineering Reconnaissance Operations
MCT 4.2.2.4	Conduct Repair
MCT 4.3.6	Conduct Material Handling Operations
MCT 4.4.1	Conduct Horizontal Construction
MCT 4.4.1.1	Conduct Limited Horizontal Construction
MCT 4.4.2	Conduct Vertical Construction
MCT 4.4.2.1	Conduct Limited Vertical Construction
MCT 4.4.3	Conduct Bulk Liquids Operations
MCT 4.4.3.1	Conduct Limited Bulk Liquids Operations
MCT 4.4.4	Conduct Tactical Electrical Supply
MCT 4.4.4.1	Conduct Limited Tactical Electrical Supply
MCT 6.1.4	Conduct Survivability Operations

2001. COMBAT ASSAULT BATTALION CORE MISSION-ESSENTIAL TASK LIST. The CAB METL Table lists the Standardized Core Mission-Essential Tasks (MET), derived from the Marine Corps Task List (MCTL), for the CAB. This METL is used for readiness reporting in the DRRS. The following event codes are the linked evaluation coded (E-Coded) events that support the MET.

CAB CORE MISSION-ESSENTIAL TASKS

MARINE CORPS TASK LIST	CAB CORE METL
MCT 1.1.2	Provide Task-Organized Forces
MCT 1.12.1	Conduct Amphibious Operations
MCT 1.4.1	Conduct Mobility Operations
MCT 1.4.2	Conduct Counter-Mobility Operations
MCT 2.2.2	Provide and Maintain Engineering Reconnaissance Operations
MCT 4.4.4	Conduct Tactical Electric Supply
MCT 6.1.4	Conduct Survivability Operations

CAB MET#/MISSION-ESSENTIAL TASK

MCT 1 1 2 PROVI	DE TASK-ORGANIZED FORCES
CAB-ADMN-7001	Command and control engineer forces
CAB-EOPS-7001	Train engineer forces
CAB-PLAN-7001	Plan engineer operations
CAB-ADMN-6001	Command and control engineer forces
CAB-CMOB-6001	Conduct countermobility operations
CAB-EOPS-6001	Train engineer forces
CAB-MOBL-6001	Conduct mobility operations
CAB-MOBL-6001	Provide provisional infantry
CAB-PINF-6001	Conduct survivability operations
CAB-HEOP-5001	Provide limited engineer equipment support
CAB-HEOP-5001	Provide limited engineer equipment support Provide limited utilities support
CAB-011L-5001	Fight as provisional infantry
CAB-MANT-4001	Maintain engineer equipment
CAB-PINF-4001	Fight as provisional infantry
CAB-UTIL-4002	Provide potable water
CAB-UTIL-4003	Provide tactical hygiene support
CAB-HEOP-3002	Provide limited earth moving equipment support
CAB-MANT-3003	Maintain water purification equipment
CAB-MANT-3004	Maintain hygiene equipment
CAB-UTIL-3005	Produce potable water
CAB-UTIL-3006	Store potable water
CAB-UTIL-3007	Establish water distribution site
	OUCT AMPHIBIOUS OPERATIONS
CAB-ADMN-7001	Command and control engineer forces
CAB-EOPS-7001	Train engineer forces
CAB-PLAN-7001	Plan engineer operations
CAB-ADMN-6001	Command and control engineer forces
CAB-EOPS-6001	Train engineer forces
CAB-EOPS-6002	Conduct limited general engineering operations
CAB-MOBL-6001	Conduct mobility operations
CAB-PLAN-6001	Plan engineer operations
CAB-HEOP-5001	Provide limited engineer equipment support
CAB-PINF-5001	Fight as provisional infantry
CAB-HEOP-4001	Conduct Material handling Equipment (MHE) operations
CAB-HEOP-3001	Provide limited Material Handling Equipment (MHE) support
CAB-HEOP-3002	Provide limited earth moving equipment support
	CT MOBILITY OPERATIONS
CAB-ADMN-7001	Command and control engineer forces
CAB-EOPS-7001	Train engineer forces
CAB-PLAN-7001	Plan engineer operations
CAB-ADMN-6001	Command and control engineer forces
CAB-EOPS-6001	Train engineer forces
CAB-EOPS-6002	Conduct limited general engineering operations
CAB-MOBL-6001	Conduct mobility operations
CAB-PLAN-6001	Plan engineer operations
CAB-DEMO-5001	Conduct demolition operations
CAB-HEOP-5001	Provide limited engineer equipment support
CAB-HORZ-5001	Conduct limited horizontal construction
CAB-HORZ-5002	Prepare site for construction

CAB-MOBL-5001 Conduct obstacle breaching operations CAB-MOBL-5002 Conduct route clearance operations CAB-MOBL-5003 Construct expedient Helicopter Landing Zone (HLZ) CAB-MOBL-5004 Construct combat roads CAB-PINF-5001 Fight as provisional infantry CAB-VERT-5001 Construct limited vertical construction CAB-HODF-4001 Conduct Material Handling Equipment (MHE) operations CAB-MOBL-4001 Conduct Material Handling Equipment (MHE) operations CAB-MOBL-4002 Conduct massault breach CAB-MOBL-4003 Conduct assault breach CAB-MOBL-4004 Conduct covert breach CAB-MOBL-4005 Conduct dismounted route sweep operations CAB-MOBL-4006 Conduct dismounted route sweep operations CAB-MOBL-4007 Detect obstacles during clearance operations CAB-MOBL-4007 Detect obstacles for clearance operations CAB-MOBL-4007 Detect obstacles for clearance operations CAB-MOBL-4001 Install a rope bridge CAB-MOBL-4010 Install a rope bridge CAB-WERT-4001 Fight as provisional infantry CAB-VERT-4001 Fight as provisional infantry CAB-VERT-4002 Construct wood frame structure CAB-VERT-4003 Construct wood frame structure CAB-VERT-4004 Provide limited repair of existing structures CAB-VERT-4005 Rig expedient lifting devices CAB-DEMO-3001 Destroy bridge with demolitions CAB-DEMO-3001 Destroy bridge with demolitions CAB-DEMO-3001 Provide limited arms and ammunition with demolitions CAB-DEMO-3001 Provide limited arms and ammunition support CAB-MOBL-3001 Provide limited makerial Handling Equipment (MHE) support CAB-MOBL-3001 Provide limited makerial Handling Equipment support CAB-MOBL-3001 Provide limited makerial Handling Equipment (MHE) support CAB-MOBL-3001 Provide limited with demolitions CAB-BEMOBL-3001 Provide limited makerial Handling Equipment support CAB-MOBL-3001 Provide limited makerial Handling Equipment		
CAB-MOBL-5003 Construct expedient Helicopter Landing Zone (HLZ) CAB-MOBL-5004 Construct combat roads CAB-PINF-5001 Fight as provisional infantry CAB-VERT-5001 Construct limited vertical construction CAB-HOP-4001 Conduct Material Handling Equipment (MHE) operations CAB-MOBL-4001 Conduct deliberate breach CAB-MOBL-4002 Conduct assault breach CAB-MOBL-4003 Conduct assault breach CAB-MOBL-4004 Conduct desimptions CAB-MOBL-4005 Conduct desimptions CAB-MOBL-4006 Conduct desimptions CAB-MOBL-4007 Conduct dismounted route sweep operations CAB-MOBL-4008 Conduct dismounted route sweep operations CAB-MOBL-4007 Conduct dismounted route sweep operations CAB-MOBL-4007 Conduct dismounted route improvement CAB-MOBL-4007 Conduct limited route improvement CAB-MOBL-4009 Conduct limited route improvement CAB-MOBL-4010 Install a rope bridge CAB-MOBL-4011 Employ demolitions in support of mobility operations CAB-FINET-4001 Fight as provisional infantry CAB-VERT-4001 Construct wood frame structure CAB-VERT-4002 Construct timber structure CAB-VERT-4003 Construct timber structure CAB-VERT-4004 Provide limited vertical construction CAB-DEMO-3001 Destroy bridge with demolitions CAB-DEMO-3001 Destroy bridge with demolitions CAB-DEMO-3001 Destroy bridge with demolitions CAB-DEMO-3001 Destroy building with demolitions CAB-BEMO-3002 Conduct an urban breach CAB-MOBL-3003 Conduct an urban breach CAB-MOBL-3004 Provide limited Material Handling Equipment (MHE) support CAB-MOBL-3005 Provide limited Material Handling Equipment (MHE) support CAB-MOBL-3007 Provide limited Material Handling Equipment (MHE) support CAB-MOBL-3007 Provide limited Material Handling Equipment (MHE) support CAB-MOBL-3009 Employ a medium machinegun team CAB-MOBL-3000 Conduct an urban breach CAB-MOBL-3000 Conduct an urban breach CAB-MOBL-3000 Fill standing timber CAB-MOBL-3001 Formation of the provide conduct of the p	CAB-MOBL-5001	Conduct obstacle breaching operations
CAB-MOBL-5001 Fight as provisional infantry CAB-VERT-5001 Construct limited vertical construction CAB-HEOP-4001 Conduct Material Handling Equipment (MHE) operations CAB-MOBL-4001 Conduct deliberate breach CAB-MOBL-4002 Conduct assault breach CAB-MOBL-4003 Conduct assault breach CAB-MOBL-4004 Conduct covert breach CAB-MOBL-4005 Conduct dismounted route sweep operations CAB-MOBL-4006 Conduct severity for clearance operations CAB-MOBL-4007 Detect obstacles during clearance operations CAB-MOBL-4008 Breach obstacles for clearance operations CAB-MOBL-4009 Conduct limited route improvement CAB-MOBL-4009 Conduct limited route improvement CAB-MOBL-4009 Conduct limited route improvement CAB-MOBL-4001 Install a rope bridge CAB-MOBL-4011 Eight as provisional infantry CAB-VERT-4001 Construct limited vertical construction CAB-VERT-4001 Construct wood frame structure CAB-VERT-4002 Construct wood frame structure CAB-VERT-4003 Construct timber structure CAB-VERT-4001 Destroy bridge with demolitions CAB-DEMO-3001 Destroy bridge with demolitions CAB-DEMO-3001 Destroy bridge with demolitions CAB-DEMO-3002 Destroy bridge with demolitions CAB-DEMO-3001 Provide limited areain manual for provide limited search moving equipment (MHE) support CAB-DEMO-3001 Provide limited material Handling Equipment (MHE) support CAB-DEMO-3001 Provide limited material Handling Equipment (MHE) support CAB-MOBL-3001 Provide limited searth moving equipment support CAB-MOBL-3001 Provide limited search moving equipment support CAB-M	CAB-MOBL-5002	
CAB-PINF-5001 Fight as provisional infantry CAB-VERT-5001 Construct limited vertical construction CAB-HBOP-4001 Conduct Material Handling Equipment (MHE) operations CAB-MOBL-4002 Conduct deliberate breach CAB-MOBL-4003 Conduct assault breach CAB-MOBL-4004 Conduct assault breach CAB-MOBL-4005 Conduct designation of the conduct covert breach CAB-MOBL-4005 Conduct dismounted route sweep operations CAB-MOBL-4006 Conduct dismounted route sweep operations CAB-MOBL-4007 Detect obstacles during clearance operations CAB-MOBL-4008 Breach obstacles for clearance operations CAB-MOBL-4009 Conduct limited route improvement CAB-MOBL-4010 Install a route improvement CAB-MOBL-4011 Employ demolitions in support of mobility operations CAB-FINF-4001 Fight as provisional infantry CAB-VERT-4001 Construct limited vertical construction CAB-VERT-4001 Construct limited vertical construction CAB-VERT-4002 Construct wood frame structure CAB-VERT-4004 Provide limited repair of existing structures CAB-VERT-4004 Provide limited repair of existing structures CAB-DEMO-3001 Destroy tunnel with demolitions CAB-DEMO-3002 Destroy bridge with demolitions CAB-DEMO-3003 Destroy bridge with demolitions CAB-DEMO-3004 Destroy bridge with demolitions CAB-DEMO-3004 Destroy bridge with Material Handling Equipment (MHE) support CAB-MOBL-3001 Provide limited earth moving equipment support CAB-MOBL-3002 Conduct an urban breach CAB-MOBL-3003 Create a lane through an obstacle CAB-MOBL-3004 Proof a lane through an obstacle CAB-MOBL-3007 Remotely reduce explosive hazards ive hazards CAB-MOBL-3008 Employ a heavy machinegun team CAB-MOBL-3001 Fill standing timber CAB-MOBL-3001 Fill standing timber CAB-MOBL-3001 Conduct are clearance operations CAB-MOBL-3011 Conduct are clearance operations CAB-MOBL-3010 Fill standing timber CAB-MOBL-3011 Conduct are clearance operations CAB-MOBL-3010 Fill standing timber CAB-MOBL-3011 Conduct are clearance operations CAB-MOBL-3011 Conduct are clearance operations CAB-DEMO-6001 Conduct countermobility operations CAB-DEMO-6001 Conduc	CAB-MOBL-5003	Construct expedient Helicopter Landing Zone (HLZ)
CAB-VERT-5001 Construct limited vertical construction CAB-HODF-4001 Conduct Material Handling Equipment (MHE) operations CAB-MOBL-4001 Conduct deliberate breach CAB-MOBL-4002 Conduct hasty/in-stride breach CAB-MOBL-4003 Conduct assault breach CAB-MOBL-4005 Conduct dismounted route sweep operations CAB-MOBL-4006 Conduct dismounted route sweep operations CAB-MOBL-4007 Detect obstacles during clearance operations CAB-MOBL-4008 Pack of the search obstacles for clearance operations CAB-MOBL-4009 Conduct limited route improvement CAB-MOBL-4009 Conduct limited route improvement CAB-MOBL-4009 Conduct limited route improvement CAB-MOBL-4010 Install a rope bridge CAB-MOBL-4011 Fight as provisional infantry CAB-VERT-4001 Construct limited vertical construction CAB-VERT-4001 Construct limited vertical construction CAB-VERT-4002 Construct wood frame structure CAB-VERT-4003 Construct timber structure CAB-VERT-4004 Provide limited repair of existing structures CAB-DEMO-3001 Destroy bridge with demolitions CAB-DEMO-3001 Destroy bridge with demolitions CAB-DEMO-3002 Destroy bridge with demolitions CAB-DEMO-3004 Destroy bridge with demolitions CAB-DEMO-3004 Provide limited areain Handling Equipment (MHE) support CAB-MOBL-3001 Provide limited areain Handling Equipment (MHE) support CAB-MOBL-3001 Provide limited earth moving equipment support CAB-MOBL-3001 Provide limited	CAB-MOBL-5004	Construct combat roads
CAB-HEOP-4001 Conduct Material Handling Equipment (MHE) operations CAB-MOBL-4001 Conduct deliberate breach CAB-MOBL-4002 Conduct hasty/in-stride breach CAB-MOBL-4003 Conduct assault breach CAB-MOBL-4005 Conduct dismounted route sweep operations CAB-MOBL-4005 Conduct dismounted route sweep operations CAB-MOBL-4007 Conduct security for clearance operations CAB-MOBL-4007 Detect obstacles for clearance operations CAB-MOBL-4009 Conduct limited route improvement CAB-MOBL-4009 Conduct limited route improvement CAB-MOBL-4010 Install a rope bridge CAB-MOBL-4010 Install a rope bridge CAB-MOBL-4011 Employ demolitions in support of mobility operations CAB-MOBL-4011 Employ demolitions in support of mobility operations CAB-VERT-4001 Construct limited vertical construction CAB-VERT-4002 Construct wood frame structure CAB-VERT-4003 Construct timber structure CAB-VERT-4004 Provide limited repair of existing structures CAB-VERT-4005 Rig expedient lifting devices CAB-DEMO-3001 Destroy captured arms and ammunition with demolitions CAB-DEMO-3002 Destroy bridge with demolitions CAB-DEMO-3003 Destroy bridge with demolitions CAB-DEMO-3004 Destroy bridge with demolitions CAB-DEMO-3007 Provide limited Material Handling Equipment (MHE) support CAB-MOBL-3001 Engage targets with MK153 SMAW CAB-MOBL-3002 Conduct an urban breach CAB-MOBL-3003 Remotely detect explosive hazards CAB-MOBL-3006 Remotely detect explosive hazards CAB-MOBL-3007 Remotely detect explosive hazards CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3001 Deprate small craft CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3010 Engage targets with MK153 SMAW CAB-MOBL-3001 Conduct area clearance operations CAB-MOBL-3010 Fell standing timber CAB-MOBL-3010 Fell standing timber CAB-MOBL-3010 Conduct area clearance operations CAB-MOBL-3011 Operate small craft CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Conduct limited power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-DA	CAB-PINF-5001	Fight as provisional infantry
CAB-MOBL-4001 Conduct deliberate breach CAB-MOBL-4002 Conduct hasty/in-stride breach CAB-MOBL-4003 Conduct assault breach CAB-MOBL-4004 Conduct covert breach CAB-MOBL-4005 Conduct dismounted route sweep operations CAB-MOBL-4006 Conduct security for clearance operations CAB-MOBL-4007 Detect obstacles during clearance operations CAB-MOBL-4008 Breach obstacles for clearance operations CAB-MOBL-4009 Conduct limited route improvement CAB-MOBL-4010 Install a rope bridge CAB-MOBL-4011 Employ demolitions in support of mobility operations CAB-MOBL-4011 Fight as provisional infantry CAB-VERT-4001 Construct limited vertical construction CAB-VERT-4002 Construct timber structure CAB-VERT-4003 Construct timber structure CAB-VERT-4005 Rig expedient lifting devices CAB-DEMO-3001 Destroy bridge with demolitions CAB-DEMO-3002 Destroy bridge with demolitions CAB-DEMO-3003 Destroy tunnel with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-DEMO-3007 Provide limited dearth moving equipment (MHE) support CAB-MOBL-3001 Engage targets with MK153 SMAW CAB-MOBL-3002 Provide limited earth moving equipment support CAB-MOBL-3003 Create a lane through an obstacle CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3007 Remotely detect explosive hazards ive hazards CAB-MOBL-3007 Remotely detect explosive hazards CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3001 Conduct an urban breach CAB-MOBL-3001 Engage targets with MK153 SMAW CAB-MOBL-3002 Conduct an urban breach CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3007 Remotely detect explosive hazards CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3009 Employ a medium machinegun team CAB-MOBL-3001 Command and control engineer forces CAB-MOBL-3011 Command and control engineer forces CAB-DANN-7001 Command and control engineer forces CAB-DANN-7001 Command and control engineer forces CAB-DANN-7001 Command and control engineer forces	CAB-VERT-5001	Construct limited vertical construction
CAB-MOBL-4002 Conduct hasty/in-stride breach CAB-MOBL-4003 Conduct assault breach CAB-MOBL-4004 Conduct covert breach CAB-MOBL-4005 Conduct dismounted route sweep operations CAB-MOBL-4006 Conduct security for clearance operations CAB-MOBL-4007 Detect obstacles during clearance operations CAB-MOBL-4008 Breach obstacles for clearance operations CAB-MOBL-4009 Conduct limited route improvement CAB-MOBL-4010 Install a rope bridge CAB-MOBL-4011 Employ demolitions in support of mobility operations CAB-MOBL-4011 Employ demolitions in support of mobility operations CAB-PINF-4001 Fight as provisional infantry CAB-VERT-4001 Construct limited vertical construction CAB-VERT-4002 Construct wood frame structure CAB-VERT-4003 Construct timber structure CAB-VERT-4004 Provide limited repair of existing structures CAB-VERT-4005 Rig expedient lifting devices CAB-DEMO-3001 Destroy bridge with demolitions CAB-DEMO-3001 Destroy bridge with demolitions CAB-DEMO-3002 Destroy bridge with demolitions CAB-DEMO-3004 Destroy bridge with demolitions CAB-DEMO-3004 Destroy bridge with demolitions CAB-BEOP-3001 Provide limited Material Handling Equipment (MHE) support CAB-MOBL-3002 Provide limited Material Handling Equipment Support CAB-MOBL-3003 Conduct an urban breach CAB-MOBL-3004 Proof a lane through an obstacle CAB-MOBL-3005 Remotely reduce explosive hazards ive hazards CAB-MOBL-3006 Remotely detect explosive hazards ive hazards CAB-MOBL-3007 Remotely reduce explosive hazards ive hazards CAB-MOBL-3009 Employ a medium machinegun team CAB-MOBL-3001 Fight standing timber CAB-MOBL-3001 Conduct limited route clearance operations CAB-MOBL-3011 Conduct limited route clearance operations CAB-MOBL-3012 Conduct area clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-MOBL-3010 Command and control engineer forces CAB-MOBL-3011 Command and control engineer forces CAB-DANN-7001 Command and control engineer forces CAB-DANN-7001 Command and control engineer forces CAB-DANN-7001 Command and control engineer forces	CAB-HEOP-4001	Conduct Material Handling Equipment (MHE) operations
CAB-MOBL-4003 Conduct assault breach CAB-MOBL-4005 Conduct covert breach CAB-MOBL-4005 Conduct dismounted route sweep operations CAB-MOBL-4007 Detect obstacles during clearance operations CAB-MOBL-4008 Breach obstacles during clearance operations CAB-MOBL-4008 Breach obstacles for clearance operations CAB-MOBL-4009 Conduct limited route improvement CAB-MOBL-4010 Install a rope bridge CAB-MOBL-4011 Employ demolitions in support of mobility operations CAB-MOBL-4011 Fight as provisional infantry CAB-VERT-4001 Construct limited vertical construction CAB-VERT-4002 Construct wood frame structure CAB-VERT-4003 Construct timber structure CAB-VERT-4004 Construct timber structure CAB-VERT-4005 Rig expedient lifting devices CAB-DEMO-3001 Destroy bridge with demolitions CAB-DEMO-3002 Destroy bridge with demolitions CAB-DEMO-3002 Destroy bridge with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-DEMO-3005 Provide limited daterial Handling Equipment (MHE) support CAB-MEDP-3001 Provide limited daterial Handling Equipment (MHE) support CAB-MEDP-3001 Provide limited daterial Handling Equipment CAB-MOBL-3001 Conduct an urban breach CAB-MOBL-3002 Conduct an urban breach CAB-MOBL-3003 Mark a lane through an obstacle CAB-MOBL-3004 Remotely detect explosive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3007 Remotely detect explosive hazards CAB-MOBL-3009 Employ a medium machinegun team CAB-MOBL-3001 Conduct limited route clearance operations CAB-MOBL-3011 Conduct area clearance operations CAB-MOBL-3011 Conduct area clearance operations CAB-MOBL-3011 Command and control engineer forces CAB-DANN-7001 Command and control engineer forces CAB-DANN-7001 Command and control engineer forces CAB-DANN-7001 Command and control engineer forces	CAB-MOBL-4001	Conduct deliberate breach
CAB-MOBL-4004 Conduct covert breach CAB-MOBL-4005 Conduct dismounted route sweep operations CAB-MOBL-4007 Detect obstacles during clearance operations CAB-MOBL-4008 Breach obstacles during clearance operations CAB-MOBL-4009 Breach obstacles for clearance operations CAB-MOBL-4009 Conduct limited route improvement CAB-MOBL-4010 Install a rope bridge CAB-MOBL-4011 Employ demolitions in support of mobility operations CAB-PINF-4001 Fight as provisional infantry CAB-VERT-4001 Construct limited vertical construction CAB-VERT-4002 Construct wood frame structure CAB-VERT-4003 Construct timber structure CAB-VERT-4004 Provide limited repair of existing structures CAB-VERT-4005 Rig expedient lifting devices CAB-DEMO-3001 Destroy captured arms and ammunition with demolitions CAB-DEMO-3002 Destroy bridge with demolitions CAB-DEMO-3003 Destroy building with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-DEMO-3005 Destroy building with demolitions CAB-HEOP-3001 Provide limited Material Handling Equipment (MHE) support CAB-HEOP-3002 Provide limited Material Handling Equipment support CAB-MOBL-3001 Engage targets with MK153 SMAW CAB-MOBL-3001 Conduct an urban breach CAB-MOBL-3003 Destroy bridge with demolitions CAB-MOBL-3001 Engage targets with MK153 SMAW CAB-MOBL-3003 Mark a lane through an obstacle CAB-MOBL-3004 Proof a lane through an obstacle CAB-MOBL-3007 Remotely reduce explosive hazards ive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3009 Employ a medium machinegun team CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3010 Conduct area clearance operations CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-MOBL-3010 Establish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-DADNN-7001 Command and control engineer forces CAB-DADNN-7001 Command and control engineer forces CAB-COB-6001	CAB-MOBL-4002	
CAB-MOBL-4005 Conduct dismounted route sweep operations CAB-MOBL-4006 Conduct security for clearance operations CAB-MOBL-4007 Detect obstacles during clearance operations CAB-MOBL-4008 Breach obstacles for clearance operations CAB-MOBL-4009 Conduct limited route improvement CAB-MOBL-4010 Install a rope bridge CAB-MOBL-4011 Employ demolitions in support of mobility operations CAB-MOBL-4011 Fight as provisional infantry CAB-PINF-4001 Fight as provisional infantry CAB-VERT-4002 Construct limited vertical construction CAB-VERT-4003 Construct timber structure CAB-VERT-4003 Construct timber structure CAB-VERT-4005 Rig expedient lifting devices CAB-VERT-4005 Rig expedient lifting devices CAB-DEMO-3001 Destroy captured arms and ammunition with demolitions CAB-DEMO-3002 Destroy trindge with demolitions CAB-DEMO-3003 Destroy building with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-DEMO-3003 Destroy building with demolitions CAB-DEMO-3004 Provide limited Material Handling Equipment (MHE) support CAB-MOBL-3002 Conduct an urban breach CAB-MOBL-3003 Create a lane through an obstacle CAB-MOBL-3004 Proof a lane through an obstacle CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3006 Remotely detect explosive hazards ive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3008 Employ a heavy machinegun team CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3001 Conduct limited route clearance operations CAB-MOBL-3011 Conduct are clearance operations CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3010 Establish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-DADNN-7001 Command and control engineer forces CAB-DADNN-7001 Command and control engineer forces CAB-DADNN-7001 Command and control engineer forces CAB-DADNN-6001 Comduct countermobility operations CAB-COB-6001 Conduct countermobility operations	CAB-MOBL-4003	Conduct assault breach
CAB-MOBL-4006 Conduct security for clearance operations CAB-MOBL-4007 Detect obstacles during clearance operations CAB-MOBL-4008 Breach obstacles for clearance operations CAB-MOBL-4010 Install a rope bridge CAB-MOBL-4011 Imploy demolitions in support of mobility operations CAB-MOBL-4011 Employ demolitions in support of mobility operations CAB-MOBL-4011 Employ demolitions in support of mobility operations CAB-VERT-4001 Construct limited vertical construction CAB-VERT-4002 Construct wood frame structure CAB-VERT-4003 Construct timber structure CAB-VERT-4004 Provide limited repair of existing structures CAB-VERT-4005 Rig expedient lifting devices CAB-VERT-4005 Rig expedient lifting devices CAB-DEMO-3001 Destroy captured arms and ammunition with demolitions CAB-DEMO-3002 Destroy bridge with demolitions CAB-DEMO-3003 Destroy building with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-DEMO-3001 Provide limited Material Handling Equipment (MHE) support CAB-HEOP-3001 Provide limited earth moving equipment support CAB-MOBL-3002 Conduct an urban breach CAB-MOBL-3003 Create a lane through an obstacle CAB-MOBL-3004 Provide alane through an obstacle CAB-MOBL-3006 Remotely detect explosive hazards ive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3001 Fell standing timber CAB-MOBL-3001 Conduct limited route clearance operations CAB-MOBL-3011 Conduct limited route clearance operations CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3010 Exablish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-MON-7001 Command and control engineer forces CAB-DANN-7001 Command and control engineer forces CAB-DANN-7001 Conduct countermobility operations CAB-COMB-6001 Conduct countermobility operations CAB-COMB-6001 Conduct countermobility operations	CAB-MOBL-4004	Conduct covert breach
CAB-MOBL-4007 Detect obstacles during clearance operations CAB-MOBL-4008 Breach obstacles for clearance operations CAB-MOBL-4001 Install a rope bridge CAB-MOBL-4010 Install a rope bridge CAB-MOBL-4011 Employ demolitions in support of mobility operations CAB-MOBL-4011 Fight as provisional infantry CAB-VERT-4001 Construct limited vertical construction CAB-VERT-4002 Construct wood frame structure CAB-VERT-4002 Construct wood frame structure CAB-VERT-4004 Provide limited repair of existing structures CAB-VERT-4005 Rig expedient lifting devices CAB-VERT-4005 Destroy captured arms and ammunition with demolitions CAB-DEMO-3001 Destroy bridge with demolitions CAB-DEMO-3002 Destroy bridge with demolitions CAB-DEMO-3003 Destroy building with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-DEMO-3001 Provide limited earth moving equipment (MHE) support CAB-MEDP-3001 Engage targets with MK153 SMAW CAB-MOBL-3002 Conduct an urban breach CAB-MOBL-3003 Create a lane through an obstacle CAB-MOBL-3004 Proof a lane through an obstacle CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3006 Remotely detect explosive hazards ive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3010 Fell standing timber CAB-MOBL-3010 Conduct area clearance operations CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-MOBL-3010 Command and control engineer forces CAB-MOBL-3011 Conduct limited route clearance operations CAB-MOBL-3010 Command and control engineer forces CAB-DAMN-7001 Conduct counternobility operations CAB-DAMN-7001 Conduct counternobility operations CAB-DAMN-7001 Conduct counternobility operations CAB-DAMN-6001 Conduct counternobility operations	CAB-MOBL-4005	Conduct dismounted route sweep operations
CAB-MOBL-4008 Breach obstacles for clearance operations CAB-MOBL-4009 Conduct limited route improvement CAB-MOBL-4010 Install a rope bridge CAB-MOBL-4011 Employ demolitions in support of mobility operations CAB-PINF-4001 Fight as provisional infantry CAB-VERT-4001 Construct limited vertical construction CAB-VERT-4002 Construct wood frame structure CAB-VERT-4003 Construct timber structure CAB-VERT-4004 Provide limited repair of existing structures CAB-VERT-4005 Rig expedient lifting devices CAB-DEMO-3001 Destroy captured arms and ammunition with demolitions CAB-DEMO-3002 Destroy bridge with demolitions CAB-DEMO-3003 Destroy tunnel with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-HEOP-3001 Provide limited Material Handling Equipment (MHE) support CAB-HEOP-3002 Provide limited earth moving equipment support CAB-MOBL-3001 Engage targets with MKIS3 SMAW CAB-MOBL-3002 Conduct an urban breach CAB-MOBL-3003 Create a lane through an obstacle CAB-MOBL-3004 Proof a lane through an obstacle CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3006 Remotely detect explosive hazards ive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct are clearance operations CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3011 Operate small craft CAB-MOBL-3011 Operate small craft CAB-MOBL-3011 Operate small craft CAB-MOBL-3010 Fell standing timber CAB-MOBL-3010 Conduct are clearance operations CAB-MOBL-3010 Conduct are clearance operations CAB-MOBL-3010 Conduct counternobility	CAB-MOBL-4006	Conduct security for clearance operations
CAB-MOBL-4009 Conduct limited route improvement CAB-MOBL-4010 Install a rope bridge CAB-MOBL-4011 Employ demolitions in support of mobility operations CAB-MOBL-4011 Employ demolitions in support of mobility operations CAB-VERT-4001 Construct limited vertical construction CAB-VERT-4002 Construct wood frame structure CAB-VERT-4003 Construct timber structure CAB-VERT-4004 Provide limited repair of existing structures CAB-VERT-4005 Rig expedient lifting devices CAB-DEMO-3001 Destroy captured arms and ammunition with demolitions CAB-DEMO-3002 Destroy bridge with demolitions CAB-DEMO-3003 Destroy building with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-HEOP-3001 Provide limited Material Handling Equipment (MHE) support CAB-HEOP-3002 Provide limited earth moving equipment support CAB-MOBL-3001 Engage targets with MK153 SMAW CAB-MOBL-3002 Conduct an urban breach CAB-MOBL-3003 Create a lane through an obstacle CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3006 Remotely detect explosive hazards ive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3001 Fell standing timber CAB-MOBL-3001 Fell standing timber CAB-MOBL-3001 Conduct area clearance operations CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-MOBL-3011 Operate small craft CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct area clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-MOBL-3010 Command and control engineer forces CAB-DAMN-7001 Command and control engineer forces CAB-DAMN-7001 Plan engineer operations CAB-CMOB-6001 Conduct countermobility operations CAB-CMOB-6001 Conduct countermobility operations	CAB-MOBL-4007	Detect obstacles during clearance operations
CAB-MOBL-4010 Install a rope bridge CAB-MOBL-4011 Employ demolitions in support of mobility operations CAB-PINF-4001 Fight as provisional infantry CAB-VERT-4001 Construct limited vertical construction CAB-VERT-4002 Construct timber structure CAB-VERT-4003 Construct timber structure CAB-VERT-4004 Provide limited repair of existing structures CAB-VERT-4005 Rig expedient lifting devices CAB-DEMO-3001 Destroy bridge with demolitions with demolitions CAB-DEMO-3002 Destroy bridge with demolitions CAB-DEMO-3003 Destroy tunnel with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-HEOP-3001 Provide limited Material Handling Equipment (MHE) support CAB-HEOP-3002 Provide limited earth moving equipment support CAB-MOBL-3001 Engage targets with MK153 SMAW CAB-MOBL-3002 Conduct an urban breach CAB-MOBL-3004 Proof a lane through an obstacle CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3006 Remotely detect explosive hazards ive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3011 Conduct limited route clearance operations CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Conduct limited route clearance operations CAB-MOBL-3010 Command and control engineer forces CAB-DAMN-6001 Command and control engineer forces CAB-DAMN-6001 Command and control engineer forces CAB-CMOB-6001 Conduct countermobility operations	CAB-MOBL-4008	Breach obstacles for clearance operations
CAB-MOBL-4011 Employ demolitions in support of mobility operations CAB-PINF-4001 Fight as provisional infantry CAB-VERT-4001 Construct limited vertical construction CAB-VERT-4002 Construct wood frame structure CAB-VERT-4003 Construct timber structure CAB-VERT-4004 Provide limited repair of existing structures CAB-VERT-4005 Rig expedient lifting devices CAB-DEMO-3001 Destroy captured arms and ammunition with demolitions CAB-DEMO-3002 Destroy bridge with demolitions CAB-DEMO-3003 Destroy tunnel with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-HEOP-3001 Provide limited Material Handling Equipment (MHE) support CAB-MOBL-3001 Engage targets with MK153 SMAW CAB-MOBL-3002 Conduct an urban breach CAB-MOBL-3003 Create a lane through an obstacle CAB-MOBL-3004 Proof a lane through an obstacle CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3006 Remotely detect explosive hazards ive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-MOBL-3011 Conduct limited route clearance operations CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3011 Conduct area clearance operations CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Conduct limited route clearance operations CAB-MOBL-3010 Command and control engineer forces CAB-DAMN-7001 Command and control engineer forces CAB-DAMN-7001 Command and control engineer forces CAB-DAMN-7001 Plan engineer operations CAB-DAMN-6001 Command and control engineer forces CAB-CMOB-6001 Conduct countermobility operations	CAB-MOBL-4009	Conduct limited route improvement
CAB-PINF-4001 Fight as provisional infantry CAB-VERT-4001 Construct limited vertical construction CAB-VERT-4002 Construct wood frame structure CAB-VERT-4003 Construct timber structure CAB-VERT-4004 Provide limited repair of existing structures CAB-VERT-4005 Rig expedient lifting devices CAB-DEMC-3001 Destroy captured arms and ammunition with demolitions CAB-DEMO-3002 Destroy bridge with demolitions CAB-DEMO-3003 Destroy tunnel with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-DEMO-3004 Provide limited Material Handling Equipment (MHE) support CAB-HEOP-3001 Provide limited earth moving equipment support CAB-MOBL-3001 Engage targets with MK153 SMAW CAB-MOBL-3002 Conduct an urban breach CAB-MOBL-3003 Create a lane through an obstacle CAB-MOBL-3004 Proof a lane through an obstacle CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3006 Remotely detect explosive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3011 Operate small craft CAB-MOBL-3011 Operate small craft CAB-MOBL-3011 Conduct area clearance operations CAB-MOBL-3011 Train engineer forces CAB-DUTIL-3001 Plan engineer forces CAB-DUNN-6001 Command and control engineer forces CAB-DUNN-6001 Command and control engineer forces CAB-DUNN-6001 Conduct countermobility operations CAB-CMOB-6001 Conduct countermobility operations	CAB-MOBL-4010	Install a rope bridge
CAB-PINF-4001 Fight as provisional infantry CAB-VERT-4001 Construct limited vertical construction CAB-VERT-4002 Construct wood frame structure CAB-VERT-4003 Construct timber structure CAB-VERT-4004 Provide limited repair of existing structures CAB-VERT-4005 Rig expedient lifting devices CAB-DEMC-3001 Destroy captured arms and ammunition with demolitions CAB-DEMO-3002 Destroy bridge with demolitions CAB-DEMO-3003 Destroy tunnel with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-DEMO-3004 Provide limited Material Handling Equipment (MHE) support CAB-HEOP-3001 Provide limited earth moving equipment support CAB-MOBL-3001 Engage targets with MK153 SMAW CAB-MOBL-3002 Conduct an urban breach CAB-MOBL-3003 Create a lane through an obstacle CAB-MOBL-3004 Proof a lane through an obstacle CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3006 Remotely detect explosive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3011 Operate small craft CAB-MOBL-3011 Operate small craft CAB-MOBL-3011 Conduct area clearance operations CAB-MOBL-3011 Train engineer forces CAB-DUTIL-3001 Plan engineer forces CAB-DUNN-6001 Command and control engineer forces CAB-DUNN-6001 Command and control engineer forces CAB-DUNN-6001 Conduct countermobility operations CAB-CMOB-6001 Conduct countermobility operations	CAB-MOBL-4011	Employ demolitions in support of mobility operations
CAB-VERT-4001 Construct limited vertical construction CAB-VERT-4002 Construct wood frame structure CAB-VERT-4003 Construct timber structure CAB-VERT-4004 Provide limited repair of existing structures CAB-VERT-4005 Rig expedient lifting devices CAB-DEMO-3001 Destroy captured arms and ammunition with demolitions CAB-DEMO-3002 Destroy bridge with demolitions CAB-DEMO-3003 Destroy tunnel with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-HEOP-3001 Provide limited Material Handling Equipment (MHE) support CAB-HEOP-3001 Provide limited earth moving equipment support CAB-HEOP-3002 Provide limited earth moving equipment support CAB-MOBL-3001 Engage targets with MKI53 SMAW CAB-MOBL-3003 Create a lane through an obstacle CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3006 Remotely detect explosive hazards ive hazards CAB-MOBL-3006 Remotely reduce explosive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3009 Employ a medium machinegun team CAB-MOBL-3010 Fell standing timber CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-MOBL-3010 Establish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-DLAN-7001 Plan engineer operations CAB-DLAN-7001 Train engineer forces CAB-DLAN-7001 Command and control engineer forces CAB-DLAN-7001 Command and control engineer forces CAB-DLAN-7001 Train engineer operations CAB-DLAN-F0001 Command and control engineer forces CAB-DLAN-7001 Conduct countermobility operations	CAB-PINF-4001	
CAB-VERT-4003 Construct timber structure CAB-VERT-4004 Provide limited repair of existing structures CAB-VERT-4005 Rig expedient lifting devices CAB-DEMO-3001 Destroy captured arms and ammunition with demolitions CAB-DEMO-3002 Destroy bridge with demolitions CAB-DEMO-3003 Destroy tunnel with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-HEOP-3001 Provide limited Material Handling Equipment (MHE) support CAB-HEOP-3002 Provide limited earth moving equipment support CAB-MOBL-3001 Engage targets with MK153 SMAW CAB-MOBL-3001 Conduct an urban breach CAB-MOBL-3002 Conduct an urban breach CAB-MOBL-3003 Create a lane through an obstacle CAB-MOBL-3004 Proof a lane through an obstacle CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3006 Remotely detect explosive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3009 Employ a medium machinegun team CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-MOBL-3010 Establish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-DMN-6001 Command and control engineer forces CAB-DMN-6001 Command and control engineer forces CAB-DMN-6001 Command and control engineer forces CAB-CAB-COMOB-6001 Command and control engineer forces CAB-CAB-COMOB-6001 Conduct countermobility operations	CAB-VERT-4001	
CAB-VERT-4004 Provide limited repair of existing structures CAB-VERT-4005 Rig expedient lifting devices CAB-DEMO-3001 Destroy captured arms and ammunition with demolitions CAB-DEMO-3002 Destroy bridge with demolitions CAB-DEMO-3003 Destroy tunnel with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-DEMO-3001 Provide limited Material Handling Equipment (MHE) support CAB-HEOP-3001 Provide limited earth moving equipment support CAB-MOBL-3001 Engage targets with MK153 SMAW CAB-MOBL-3002 Conduct an urban breach CAB-MOBL-3003 Create a lane through an obstacle CAB-MOBL-3004 Proof a lane through an obstacle CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3006 Remotely detect explosive hazards ive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-MOBL-3010 Establish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-DLAN-7001 Plan engineer operations CAB-DLAN-7001 Command and control engineer forces CAB-DLAN-7001 Command and control engineer forces CAB-DNN-6001 Command and control engineer forces CAB-CAB-DNN-6001 Command and control engineer forces CAB-CAB-DNN-6001 Command and control engineer forces CAB-CAB-CAB-COUNTER-MOBILITY OPERATIONS CAB-CAB-COUNTER-MOBILITY OPERATIONS CAB-CAB-CAB-COUNTER-MOBILITY OPERATIONS CAB-CAB-CAB-CAB-CAB-CAB-CAB-CAB-CAB-CAB	CAB-VERT-4002	Construct wood frame structure
CAB-VERT-4005 Rig expedient lifting devices CAB-DEMO-3001 Destroy captured arms and ammunition with demolitions CAB-DEMO-3002 Destroy bridge with demolitions CAB-DEMO-3003 Destroy tunnel with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-HEOP-3001 Provide limited Material Handling Equipment (MHE) support CAB-HEOP-3002 Provide limited earth moving equipment support CAB-MOBL-3001 Engage targets with MK153 SMAW CAB-MOBL-3002 Conduct an urban breach CAB-MOBL-3003 Create a lane through an obstacle CAB-MOBL-3004 Proof a lane through an obstacle CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3006 Remotely detect explosive hazards ive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-MOBL-3010 Fell stablish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-PLAN-7001 Plan engineer operations CAB-DED-S-001 Train engineer forces CAB-CAB-CMOB-6001 Command and control engineer forces CAB-CAB-CMOB-6001 Command and control engineer forces CAB-COM-COM-COUNTER-MOBILITY OPERATIONS CAB-COM-COUNTER-MOBILITY OPERATIONS CAB-CAB-CMOB-6001 Command and control engineer forces	CAB-VERT-4003	Construct timber structure
CAB-VERT-4005 Rig expedient lifting devices CAB-DEMO-3001 Destroy captured arms and ammunition with demolitions CAB-DEMO-3002 Destroy bridge with demolitions CAB-DEMO-3003 Destroy tunnel with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-HEOP-3001 Provide limited Material Handling Equipment (MHE) support CAB-HEOP-3002 Provide limited earth moving equipment support CAB-MOBL-3001 Engage targets with MK153 SMAW CAB-MOBL-3002 Conduct an urban breach CAB-MOBL-3003 Create a lane through an obstacle CAB-MOBL-3004 Proof a lane through an obstacle CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3006 Remotely detect explosive hazards ive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-MOBL-3010 Fell stablish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-PLAN-7001 Plan engineer operations CAB-DED-S-001 Train engineer forces CAB-CAB-CMOB-6001 Command and control engineer forces CAB-CAB-CMOB-6001 Command and control engineer forces CAB-COM-COM-COUNTER-MOBILITY OPERATIONS CAB-COM-COUNTER-MOBILITY OPERATIONS CAB-CAB-CMOB-6001 Command and control engineer forces	CAB-VERT-4004	Provide limited repair of existing structures
CAB-DEMO-3002 Destroy bridge with demolitions CAB-DEMO-3003 Destroy tunnel with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-HEOP-3001 Provide limited Material Handling Equipment (MHE) support CAB-HEOP-3002 Provide limited earth moving equipment support CAB-MOBL-3001 Engage targets with MK153 SMAW CAB-MOBL-3002 Conduct an urban breach CAB-MOBL-3003 Create a lane through an obstacle CAB-MOBL-3004 Proof a lane through an obstacle CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3006 Remotely detect explosive hazards ive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-UTIL-3001 Establish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-CAB-COB-6001 Command and control engineer forces CAB-COB-6001 Command and control engineer forces CAB-COB-6001 Command and control engineer forces CAB-COB-6001 Train engineer forces	CAB-VERT-4005	
CAB-DEMO-3002 Destroy bridge with demolitions CAB-DEMO-3003 Destroy tunnel with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-HEOP-3001 Provide limited Material Handling Equipment (MHE) support CAB-HEOP-3002 Provide limited earth moving equipment support CAB-MOBL-3001 Engage targets with MK153 SMAW CAB-MOBL-3002 Conduct an urban breach CAB-MOBL-3003 Create a lane through an obstacle CAB-MOBL-3004 Proof a lane through an obstacle CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3006 Remotely detect explosive hazards ive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-UTIL-3001 Establish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-CAB-COB-6001 Command and control engineer forces CAB-COB-6001 Command and control engineer forces CAB-COB-6001 Command and control engineer forces CAB-COB-6001 Train engineer forces	CAB-DEMO-3001	Destroy captured arms and ammunition with demolitions
CAB-DEMO-3003 Destroy tunnel with demolitions CAB-DEMO-3004 Destroy building with demolitions CAB-DEMO-3001 Provide limited Material Handling Equipment (MHE) support CAB-HEOP-3002 Provide limited earth moving equipment support CAB-MOBL-3001 Engage targets with MK153 SMAW CAB-MOBL-3002 Conduct an urban breach CAB-MOBL-3003 Create a lane through an obstacle CAB-MOBL-3004 Proof a lane through an obstacle CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3006 Remotely detect explosive hazards ive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-MOBL-3010 Establish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-DAMN-7001 Command and control engineer forces CAB-DAMN-6001 Command and control engineer forces CAB-CAB-ADMN-6001 Command and control engineer forces CAB-CMOB-6001 Comduct countermobility operations CAB-EOPS-6001 Train engineer forces	CAB-DEMO-3002	
CAB-HEOP-3001 Provide limited Material Handling Equipment (MHE) support CAB-HEOP-3002 Provide limited earth moving equipment support CAB-MOBL-3001 Engage targets with MK153 SMAW CAB-MOBL-3002 Conduct an urban breach CAB-MOBL-3003 Create a lane through an obstacle CAB-MOBL-3004 Proof a lane through an obstacle CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3006 Remotely detect explosive hazards ive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-MOBL-3010 Establish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-CAB-DANN-7001 Plan engineer operations CAB-CAB-CAB-CAB-CAB-CAB-CAB-CAB-CAB-CAB-	CAB-DEMO-3003	
CAB-HEOP-3002 Provide limited earth moving equipment support CAB-MOBL-3001 Engage targets with MK153 SMAW CAB-MOBL-3002 Conduct an urban breach CAB-MOBL-3003 Create a lane through an obstacle CAB-MOBL-3004 Proof a lane through an obstacle CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3006 Remotely detect explosive hazards ive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-UTIL-3001 Establish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-PLAN-7001 Plan engineer operations CAB-ADMN-6001 Command and control engineer forces CAB-CAB-ADMN-6001 Command and control engineer forces CAB-COB-6001 Conduct countermobility operations CAB-EOPS-6001 Train engineer forces	CAB-DEMO-3004	Destroy building with demolitions
CAB-MOBL-3001 Engage targets with MK153 SMAW CAB-MOBL-3002 Conduct an urban breach CAB-MOBL-3003 Create a lane through an obstacle CAB-MOBL-3004 Proof a lane through an obstacle CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3006 Remotely detect explosive hazards ive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-UTIL-3001 Establish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-PLAN-7001 Plan engineer operations CAB-DDMN-6001 Command and control engineer forces CAB-CAB-DDMN-6001 Command and control engineer forces CAB-CMOB-6001 Conduct countermobility operations CAB-EOPS-6001 Train engineer forces	CAB-HEOP-3001	Provide limited Material Handling Equipment (MHE) support
CAB-MOBL-3002 Conduct an urban breach CAB-MOBL-3003 Create a lane through an obstacle CAB-MOBL-3004 Proof a lane through an obstacle CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3006 Remotely detect explosive hazards ive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-UTIL-3001 Establish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-PLAN-7001 Plan engineer operations CAB-ADMN-6001 Command and control engineer forces CAB-CMB-6001 Conduct countermobility operations CAB-COB-6001 Train engineer forces	CAB-HEOP-3002	Provide limited earth moving equipment support
CAB-MOBL-3003 Create a lane through an obstacle CAB-MOBL-3004 Proof a lane through an obstacle CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3006 Remotely detect explosive hazards ive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-UTIL-3001 Establish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-EOPS-7001 Train engineer operations CAB-ADMN-6001 Command and control engineer forces CAB-CMOB-6001 Conduct countermobility operations CAB-EOPS-6001 Train engineer forces	CAB-MOBL-3001	Engage targets with MK153 SMAW
CAB-MOBL-3004 Proof a lane through an obstacle CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3006 Remotely detect explosive hazards ive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-UTIL-3001 Establish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-PLAN-7001 Plan engineer operations CAB-ADMN-6001 Command and control engineer forces CAB-CMOB-6001 Conduct countermobility operations CAB-COMB-6001 Conduct countermobility operations	CAB-MOBL-3002	Conduct an urban breach
CAB-MOBL-3005 Mark a lane through an obstacle CAB-MOBL-3006 Remotely detect explosive hazards ive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-UTIL-3001 Establish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-CAB-COPS-7001 Train engineer forces CAB-DLAN-7001 Plan engineer operations CAB-ADMN-6001 Command and control engineer forces CAB-CMOB-6001 Conduct countermobility operations CAB-COPS-6001 Train engineer forces	CAB-MOBL-3003	Create a lane through an obstacle
CAB-MOBL-3006 Remotely detect explosive hazards ive hazards CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-UTIL-3001 Establish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-CAB-CAB-CAB-CAB-CAB-CAB-CAB-CAB-CAB-	CAB-MOBL-3004	Proof a lane through an obstacle
CAB-MOBL-3007 Remotely reduce explosive hazards CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-UTIL-3001 Establish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-EOPS-7001 Train engineer forces CAB-PLAN-7001 Plan engineer operations CAB-ADMN-6001 Command and control engineer forces CAB-CMOB-6001 Conduct countermobility operations CAB-EOPS-6001 Train engineer forces	CAB-MOBL-3005	Mark a lane through an obstacle
CAB-MOBL-3008 Employ a medium machinegun team CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-MOBL-3014 Establish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-EOPS-7001 Train engineer operations CAB-PLAN-7001 Plan engineer operations CAB-ADMN-6001 Command and control engineer forces CAB-CMOB-6001 Conduct countermobility operations CAB-EOPS-6001 Train engineer forces	CAB-MOBL-3006	Remotely detect explosive hazards ive hazards
CAB-MOBL-3009 Employ a heavy machinegun team CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-UTIL-3001 Establish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-EOPS-7001 Train engineer forces CAB-PLAN-7001 Plan engineer operations CAB-ADMN-6001 Command and control engineer forces CAB-CMOB-6001 Conduct countermobility operations CAB-EOPS-6001 Train engineer forces	CAB-MOBL-3007	Remotely reduce explosive hazards
CAB-MOBL-3010 Fell standing timber CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-UTIL-3001 Establish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-EOPS-7001 Train engineer forces CAB-PLAN-7001 Plan engineer operations CAB-ADMN-6001 Command and control engineer forces CAB-CMOB-6001 Conduct countermobility operations CAB-EOPS-6001 Train engineer forces	CAB-MOBL-3008	Employ a medium machinegun team
CAB-MOBL-3011 Operate small craft CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-UTIL-3001 Establish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-EOPS-7001 Train engineer forces CAB-PLAN-7001 Plan engineer operations CAB-ADMN-6001 Command and control engineer forces CAB-CMOB-6001 Conduct countermobility operations CAB-EOPS-6001 Train engineer forces	CAB-MOBL-3009	Employ a heavy machinegun team
CAB-MOBL-3012 Conduct limited route clearance operations CAB-MOBL-3013 Conduct area clearance operations CAB-UTIL-3001 Establish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-EOPS-7001 Train engineer forces CAB-PLAN-7001 Plan engineer operations CAB-ADMN-6001 Command and control engineer forces CAB-CMOB-6001 Conduct countermobility operations CAB-EOPS-6001 Train engineer forces	CAB-MOBL-3010	Fell standing timber
CAB-MOBL-3013 Conduct area clearance operations CAB-UTIL-3001 Establish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-EOPS-7001 Train engineer forces CAB-PLAN-7001 Plan engineer operations CAB-ADMN-6001 Command and control engineer forces CAB-CMOB-6001 Conduct countermobility operations CAB-EOPS-6001 Train engineer forces	CAB-MOBL-3011	Operate small craft
CAB-MOBL-3013 Conduct area clearance operations CAB-UTIL-3001 Establish tactical power distribution system MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-EOPS-7001 Train engineer forces CAB-PLAN-7001 Plan engineer operations CAB-ADMN-6001 Command and control engineer forces CAB-CMOB-6001 Conduct countermobility operations CAB-EOPS-6001 Train engineer forces	CAB-MOBL-3012	Conduct limited route clearance operations
MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-EOPS-7001 Train engineer forces CAB-PLAN-7001 Plan engineer operations CAB-ADMN-6001 Command and control engineer forces CAB-CMOB-6001 Conduct countermobility operations CAB-EOPS-6001 Train engineer forces	CAB-MOBL-3013	
MCT 1.4.2 CONDUCT COUNTER-MOBILITY OPERATIONS CAB-ADMN-7001 Command and control engineer forces CAB-EOPS-7001 Train engineer forces CAB-PLAN-7001 Plan engineer operations CAB-ADMN-6001 Command and control engineer forces CAB-CMOB-6001 Conduct countermobility operations CAB-EOPS-6001 Train engineer forces	CAB-UTIL-3001	Establish tactical power distribution system
CAB-EOPS-7001 Train engineer forces CAB-PLAN-7001 Plan engineer operations CAB-ADMN-6001 Command and control engineer forces CAB-CMOB-6001 Conduct countermobility operations CAB-EOPS-6001 Train engineer forces	MCT 1.4.2 CONDU	CT COUNTER-MOBILITY OPERATIONS
CAB-PLAN-7001 Plan engineer operations CAB-ADMN-6001 Command and control engineer forces CAB-CMOB-6001 Conduct countermobility operations CAB-EOPS-6001 Train engineer forces	CAB-ADMN-7001	Command and control engineer forces
CAB-ADMN-6001 Command and control engineer forces CAB-CMOB-6001 Conduct countermobility operations CAB-EOPS-6001 Train engineer forces	CAB-EOPS-7001	
CAB-CMOB-6001 Conduct countermobility operations CAB-EOPS-6001 Train engineer forces	CAB-PLAN-7001	Plan engineer operations
CAB-EOPS-6001 Train engineer forces	CAB-ADMN-6001	Command and control engineer forces
	CAB-CMOB-6001	Conduct countermobility operations
CAB-EOPS-6002 Conduct limited general engineering operations	CAB-EOPS-6001	
	CAB-FODS-6002	Conduct limited general engineering operations

CAB-PLAN-6001	Plan engineer operations
CAB-CMOB-5001	Create obstacle groups
CAB-DEMO-5001	Conduct demolition operations
CAB-HEOP-5001	Provide limited engineer equipment support
CAB-HORZ-5001	Conduct limited horizontal construction
CAB-HORZ-5002	Prepare site for construction
CAB-PINF-5001	Fight as provisional infantry
CAB-CMOB-4001	Create an explosive obstacle
CAB-CMOB-4002	Create non-explosive obstacles/barriers
CAB-CMOB-4003	Employ demolitions in support of countermobility operations
CAB-HEOP-4001	Conduct Material Handling Equipment (MHE) operations
CAB-PINF-4001	Fight as provisional infantry
CAB-CMOB-3001	Construct field expedient obstacles
CAB-CMOB-3002	Build non-explosive obstacles
CAB-CMOB-3003	Employ explosive obstacles
CAB-DEMO-3002	Destroy bridge with demolitions
CAB-DEMO-3003	Destroy tunnel with demolitions
CAB-DEMO-3004	Destroy building with demolitions
CAB-HEOP-3001	Provide limited Material Handling Equipment (MHE) support
CAB-HEOP-3002	Provide limited earth moving equipment support
MCT 2.2.2 PROVI	DE AND MAINTAIN ENGINEERING RECONNAISSANCE OPERATIONS
CAB-ADMN-7001	Command and control engineer forces
CAB-EOPS-7001	Train engineer forces
CAB-PLAN-7001	Plan engineer operations
CAB-ADMN-6001	Command and control engineer forces
CAB-EOPS-6001	Train engineer forces
CAB-EOPS-6002	Conduct limited general engineering operations
CAB-PLAN-6001	Plan engineer operations
CAB-RECN-5001	Conduct engineer reconnaissance
CAB-RECN-5002	Conduct cache sweep operations
CAB-RECN-4001	Conduct engineer reconnaissance
CAB-RECN-4002	Conduct cache sweep
CAB-RECN-4003	Conduct zone reconnaissance
CAB-RECN-4004	Conduct route reconnaissance
CAB-RECN-4005	Conduct area reconnaissance
CAB-RECN-4006	Conduct site survey
CAB-RECN-3001	Conduct gap reconnaissance
CAB-RECN-3002	Conduct ferry reconnaissance
CAB-RECN-3003	Conduct cache sweep
CAB-RECN-3004	Conduct tunnel/cave reconnaissance
CAB-RECN-3005	Survey site for construction
CAB-RECN-3006	Conduct obstacle reconnaissance
CAB-RECN-3007	Conduct bridge reconnaissance
CAB-RECN-3008	Conduct road reconnaissance
MCT 4.4.4 CONDU	CT TACTICAL ELECTRIC SUPPLY
CAB-ADMN-7001	Command and control engineer forces
CAB-EOPS-7001	Train engineer forces
CAB-PLAN-7001	Plan engineer operations
CAB-ADMN-6001	Command and control engineer forces
CAB-EOPS-6001	Train engineer forces
CAB-EOPS-6002	Conduct limited general engineering operations
CAB-PLAN-6001	Plan engineer operations

CAB-MANT-5001	Maintain engineer equipment
CAB-UTIL-5001	Provide limited utilities support
CAB-MANT-4001	Maintain engineer equipment
CAB-UTIL-4001	Provide tactical electrical power
CAB-MANT-3001	Maintain engineer equipment
CAB-MANT-3002	Maintain tactical power distribution system
CAB-UTIL-3001	Establish tactical power distribution system
CAB-UTIL-3002	Provide floodlight support
CAB-UTIL-3003	Establish power generation site(s)
CAB-UTIL-3004	Wire a structure for electricity
CAB-UTIL-3008	Provide laundry services
MCT 6.1.4 CONDUCT SURVIVABILITY OPERATIONS	
CAB-ADMN-7001	Command and control engineer forces
CAB-EOPS-7001	Train engineer forces
CAB-PLAN-7001	Plan engineer operations
CAB-ADMN-6001	Command and control engineer forces
CAB-EOPS-6001	Train engineer forces
CAB-EOPS-6002	Conduct limited general engineering operations
CAB-PLAN-6001	Plan engineer operations
CAB-SURV-6001	Conduct survivability operations
CAB-DEMO-5001	Conduct demolition operations
CAB-HEOP-5001	Provide limited engineer equipment support
CAB-HORZ-5001	Conduct limited horizontal construction
CAB-HORZ-5002	Prepare site for construction
CAB-PINF-5001	Fight as provisional infantry
CAB-SURV-5001	Construct survivability positions
CAB-UTIL-5001	Provide limited utilities support
CAB-VERT-5001	Conduct limited vertical construction
CAB-HEOP-4001	Conduct Material Handling Equipment (MHE) operations
CAB-PINF-4001	Fight as provisional infantry
CAB-SURV-4001	Harden existing structure
CAB-SURV-4002	Construct field fortifications
CAB-SURV-4003	Construct Vehicle Control Point (VCP)
CAB-SURV-4004	Construct Entry Access Point (EAP)
CAB-SURV-4005	Construct earth filled barrier/structure
CAB-SURV-4006	Employ demolitions in support of survivability operations
CAB-VERT-4001	Conduct limited vertical construction
CAB-VERT-4002	Construct wood frame structure
CAB-VERT-4003	Construct timber structure
CAB-VERT-4004	Provide limited repair of existing structures
CAB-HEOP-3001	Provide limited Material Handling Equipment (MHE) support
CAB-HEOP-3002	Provide limited earth moving equipment support
CAB-SURV-3001	Construct trenches
CAB-SURV-3002	Construct shelters/bunkers
CAB-SURV-3003	Construct vehicle survivability position/revetment
CAB-SURV-3004	Construct crew served weapons positions
CAB-SURV-3005	Construct overhead cover
CAB-SURV-3006	Construct individual fighting position
CAB-SURV-3007	Construct triggering screen
CAB-SURV-3008	Construct vehicle fighting position

2002. COMBAT ENGINEER BATTALION (CEB) CORE MISSION-ESSENTIAL TASK LIST. The CEB METL Table lists the Standardized Core MET, derived from the MCTL for the CEB. This METL is used for readiness reporting in DRRS. The following event codes are the linked evaluation coded (E-Coded) events that support the MET.

CEB CORE MISSION-ESSENTIAL TASKS

MARINE CORPS TASK LIST	CEB CORE METL
MCT 1.1.2	Provide Task-Organized Forces
MCT 1.12.1	Conduct Amphibious Operations
MCT 1.4.1	Conduct Mobility Operations
MCT 1.4.2	Conduct Counter-Mobility Operations
MCT 2.2.2	Provide and Maintain Engineering Reconnaissance Operations
MCT 4.4.4	Conduct Tactical Electric Supply
MCT 6.1.4	Conduct Survivability Operations

CEB MET#/MISSION-ESSENTIAL TASK

MCT 1.1.2 PROVI	THE EODGEG
CEB-ADMN-7001	Command and control engineer forces
CEB-EOPS-7001	Train engineer forces
CEB-PLAN-7001	Plan engineer operations
CEB-ADMN-6001	Command and control engineer forces
CEB-CMOB-6001	Conduct countermobility operations
CEB-EOPS-6001	Train engineer forces
CEB-EOPS-6002	Conduct limited general engineering operations
CEB-MOBL-6001	Conduct inmitted general engineering operations Conduct mobility operations
CEB-PINF-6001	Provide provisional infantry
CEB-PLAN-6001	Plan engineer operations
CEB-PLAN-6001	Conduct survivability operations
CEB-PINF-5001 CEB-UTIL-5001	Fight as provisional infantry Provide utilities support
CEB-PINF-4001 CEB-HEOP-3002	Fight as provisional infantry
	Provide earth moving equipment support UCT AMPHIBIOUS OPERATIONS
CEB-ADMN-7001	
CEB-EOPS-7001	Command and control engineer forces Train engineer forces
CEB-EOPS-7001 CEB-PLAN-7001	~
CEB-PLAN-7001 CEB-ADMN-6001	Plan engineer operations Command and control engineer forces
CEB-EOPS-6001	Train engineer forces
CEB-EOPS-6002	Conduct limited general engineering operations
CEB-MOBL-6001	Conduct mobility operations
CEB-PINF-6001	Provide provisional infantry
CEB-PLAN-6001	Plan engineer operations
CEB-PINF-5001	Fight as provisional infantry
CEB-PINF-4001	Fight as provisional infantry
CEB-HEOP-3001	Provide Material Handling Equipment (MHE) support
	CT MOBILITY OPERATIONS
CEB-ADMN-7001	Command and control engineer forces
CEB-EOPS-7001	Train engineer forces
CEB-PLAN-7001	Plan engineer operations

CEB-ADMN-6001 CEB-EOFS-6002 CEB-EOFS-6001 Train engineer forces CEB-EOFS-6001 CEB-FINN-6001 CEB-PINN-6001 CEB-PINN-6001 CEB-PINN-6001 Provide provisional infantry CEB-PLAN-6001 CEB-HBOP-5001 CEB-HBOP-5001 CEB-HBOP-5001 CEB-HBOP-5001 CEB-HBOP-5001 CEB-HORZ-5002 CEB-MBOB-5001 CEB-HORZ-5001 CEB-MBOB-5001 CEB-MBOB-5001 CEB-MBOB-5001 CEB-MBOB-5001 CEB-MBOB-5001 CEB-MBOB-5001 CEB-MBOB-5001 CEB-MBOB-5002 CEB-MBOB-5002 CEB-MBOB-5003 CEB-MBOB-5003 CEB-MBOB-5003 CEB-MBOB-5004 CEB-MBOB-5004 CCBB-MBOB-5004 CCBB-MBOB-5005 CEB-MBOB-4004 CCBB-MBOB-4004 CCBB-MBOB-4004 CCBB-MBOB-4004 CCBB-MBOB-4005 CEB-MBOB-4006 CEB-MBOB-4006 CEB-MBOB-4007 CEB-MBOB-4008 CEB-MBOB-4009 CEB-MBOB-4009 CEB-MBOB-4009 CEB-MBOB-4009 CCBB-MBDB-4009 CEB-MBOB-4009 CEB-MBDB-4009 CEB-MBDB-3000		
CEB-MOBL-6001 Conduct mobility operations CEB-MOBL-6001 Provide provisional infantry CEB-PIAN-6001 Provide provisional infantry CEB-PIAN-6001 Provide provisional infantry CEB-PENAN-6001 Provide provisional infantry CEB-BEND-5001 Conduct demolition operations CEB-HBCP-5001 Provide engineer equipment support CEB-HBCP-5001 Provide engineer equipment support CEB-HORZ-5002 Prepare site for construction CEB-HORZ-5002 Prepare site for construction CEB-MOBL-5001 Conduct obstacle breaching operations CEB-MOBL-5001 Conduct obstacle breaching operations CEB-MOBL-5001 Construct expedient Helicopter Landing Zone (HLZ) CEB-MOBL-5001 Construct combat roads CEB-HOBL-5001 Conduct (MHE) operations CEB-MOBL-5001 Conduct deliberate breach CEB-MOBL-4001 Conduct deliberate breach CEB-MOBL-4001 Conduct assault breach CEB-MOBL-4002 Conduct assault breach CEB-MOBL-4003 Conduct assault breach CEB-MOBL-4005 Conduct deliberate breach CEB-MOBL-4006 Conduct security for clearance operations CEB-MOBL-4007 Detect obstacles during clearance operations CEB-MOBL-4007 Detect obstacles during clearance operations CEB-MOBL-4001 Install Rope Bridge CEB-MOBL-4001 Install Rope Bridge CEB-MOBL-4001 Destroy captured arms and ammunition with demolitions CEB-DEMO-3001 Destroy tunnel with demolitions CEB-DEMO-3001 Destroy bridge with demolitions CEB-DEMO-3001 Destroy bridge with demolitions CEB-DEMO-3001 Provide Invisional infantry CEB-DEMO-3001 Provide Infinite dearth moving equipment (MHE) support CEB-MOBL-3001 Provide Limited Material Handling Equipment Suppo	CEB-ADMN-6001	Command and control engineer forces
CEB-MOBL-6001 Provide provisional infantry CEB-PINF-6001 Plan engineer operations CEB-DEMO-5001 Conduct demolition operations CEB-BMO-5001 Conduct demolition operations CEB-HORZ-5001 Conduct horizontal construction CEB-HORZ-5001 Conduct horizontal construction CEB-HORZ-5001 Conduct horizontal construction CEB-MOBL-5001 Conduct obstacle breaching operations CEB-MOBL-5001 Conduct obstacle breaching operations CEB-MOBL-5002 Conduct route clearance operations CEB-MOBL-5003 Construct expedient Helicopter Landing Zone (HLZ) CEB-HOBL-5001 Conduct combat roads CEB-MOBL-5001 Conduct descriptions CEB-HOBL-5001 Conduct descriptions CEB-HOBL-5002 Conduct foute combat roads CEB-MOBL-5004 Construct combat roads CEB-MOBL-4001 Conduct (MHE) operations CEB-MOBL-4001 Conduct deliberate breach CEB-MOBL-4001 Conduct discount breach CEB-MOBL-4001 Conduct discounted route sweep operations CEB-MOBL-4002 Conduct assault breach CEB-MOBL-4003 Conduct assault breach CEB-MOBL-4004 Conduct covert breach CEB-MOBL-4006 Conduct security for clearance operations CEB-MOBL-4007 Detect obstacles during clearance operations CEB-MOBL-4008 Breach obstacles for clearance operations CEB-MOBL-4009 Conduct route improvement CEB-MOBL-4011 Employ demolitions in support of mobility CEB-DEMO-3001 Destroy bridge with demolitions CEB-DEMO-3001 Provide Limited Material Handling Equipment (MHE) support CEB-MOBL-3001 Provide Limited earth moving equipment support CEB-MOBL-3001 Provide Limited earth moving equipment (MHE) support CEB-MOBL-3001 Provide Limited Material Handling Equipment (MHE) support CEB-MOBL-3001 Provide Limited Material Handling Equipment (MHE) support CEB-MOBL-3001 Provide Limited Material Handling Equipment (M	CEB-EOPS-6001	
CEB-PINF-6001 Provide provisional infantry	CEB-EOPS-6002	Conduct limited general engineering operations
CEB-PLAN-6001 Plan engineer operations CEB-HEOF-5001 Conduct demolition operations CEB-HEOF-5001 Provide engineer equipment support CEB-HEOF-5002 Prepare site for construction CEB-HORZ-5002 Prepare site for construction CEB-MOBL-5001 Maintain engineer equipment CEB-MOBL-5001 Conduct obstacle breaching operations CEB-MOBL-5002 Conduct obstacle breaching operations CEB-MOBL-5002 Conduct capacity Conduct obstacle breaching operations CEB-MOBL-5002 Construct expedient Helicopter Landing Zone (HLZ) CEB-MOBL-5004 Construct combat roads CEB-HEOF-4001 Provide provisional infantry CEB-HEOF-4001 Conduct (MHE) operations CEB-MOBL-4001 Conduct deliberate breach CEB-MOBL-4001 Conduct deliberate breach CEB-MOBL-4001 Conduct deliberate breach CEB-MOBL-4002 Conduct assult breach CEB-MOBL-4003 Conduct assult breach CEB-MOBL-4004 Conduct covert breach CEB-MOBL-4004 Conduct security for clearance operations CEB-MOBL-4006 Conduct security for clearance operations CEB-MOBL-4007 Detect obstacles during clearance operations CEB-MOBL-4008 CEB-MOBL-4008 CEB-MOBL-4009 Conduct route improvement CEB-MOBL-4009 Conduct route improvement CEB-MOBL-4001 Install Rope Bridge CEB-MOBL-4001 Provide provisional infantry CEB-DEMO-3001 Destroy bridge with demolitions CEB-DEMO-3001 Destroy bridge with demolitions CEB-DEMO-3001 Destroy bridge with demolitions CEB-DEMO-3002 Destroy bridge with demolitions CEB-BENDF-3001 Provide Limited Material Handling Equipment (MHE) support CEB-MOBL-3001 Provide Limited earth moving equipment support CEB-MOBL-3001 Provide Limited earth moving equipment (MHE) support CEB-MOBL-3001 Provide Limited earth moving equipment (MHE) support CEB-MOBL-3001 Provide Limited earth moving equipment (MHE) support CEB-MOBL-3001 Regage targets with MK153 SMAW CEB-MOBL-3001 Regage targets with MK153 SMAW CEB-MOBL-3001 Employ a heaving machinegun CEB-MOBL-3001 Employ a medium m	CEB-MOBL-6001	Conduct mobility operations
CEB-DEMO-5001 Conduct demolition operations CEB-HGPT-5001 Conduct horizontal construction CEB-HGRZ-5002 Prepare site for construction CEB-HGRZ-5001 Conduct obstacle breaching operations CEB-MOBL-5001 Conduct route clearance operations CEB-MOBL-5002 Conduct route clearance operations CEB-MOBL-5003 Construct expedient Helicopter Landing Zone (HLZ) CEB-MOBL-5004 Construct combat roads CEB-HGRZ-5001 Provide provisional infantry CEB-HGRZ-5001 Conduct (MHE) operations CEB-HGRZ-5001 Provide provisional infantry CEB-HGRZ-4001 Conduct (MHE) operations CEB-MOBL-4001 Conduct deliberate breach CEB-MOBL-4002 Conduct tassult breach CEB-MOBL-4003 Conduct assault breach CEB-MOBL-4003 Conduct deliberate breach CEB-MOBL-4005 Conduct deliberate preach CEB-MOBL-4006 Conduct deliberate preach CEB-MOBL-4007 Detect obstacles during clearance operations CEB-MOBL-4008 Breach obstacles during clearance operations CEB-MOBL-4009 Conduct security for clearance operations CEB-MOBL-4009 Conduct route improvement CEB-MOBL-4009 Detect obstacles during clearance operations CEB-MOBL-4001 Install Rope Bridge CEB-MOBL-4010 Install Rope Bridge CEB-MOBL-4011 Employ demolitions in support of mobility CEB-FINF-4001 Provide provisional infantry CEB-DEMO-3001 Destroy captured arms and ammunition with demolitions CEB-DEMO-3001 Destroy bridge with demolitions CEB-DEMO-3001 Destroy bridge with demolitions CEB-DEMO-3002 Destroy bridge with demolitions CEB-DEMO-3003 Provide limited Material Handling Equipment (MHE) support CEB-HGDP-3001 Provide limited Material Handling Equipment (MHE) support CEB-MOBL-3001 Destroy bridge with MENS SMAW CEB-MOBL-3002 Reach obstacles with the Assault Breacher Vehicle (ABV) CEB-MOBL-3003 Conduct an urban breach CEB-MOBL-3004 Create a lane through an obstacle CEB-MOBL-3005 Proof a lane through an obstacle CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3008 Remotely reduce explosive hazards CEB-MOBL-3009 Employ a medium machinegun CEB-MOBL-3011 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate sma	CEB-PINF-6001	Provide provisional infantry
CEB-HEOP-5001 Provide engineer equipment support CEB-HORZ-5001 Conduct horizontal construction CEB-HORZ-5002 Prepare site for construction CEB-MANT-5001 Maintain engineer equipment CEB-MOBL-5001 Conduct obstacle breaching operations CEB-MOBL-5002 Conduct route clearance operations CEB-MOBL-5003 Construct expedient Helicopter Landing Zone (HLZ) CEB-MOBL-5004 Construct combat roads CEB-PINF-5001 Provide provisional infantry CEB-HEOP-4001 Conduct (MHE) operations CEB-MOBL-4001 Conduct disherate breach CEB-MOBL-4002 Conduct hasty/in-stride breach CEB-MOBL-4003 Conduct assault breach CEB-MOBL-4004 Conduct dismounted route sweep operations CEB-MOBL-4005 Conduct dismounted route sweep operations CEB-MOBL-4006 Conduct security for clearance operations CEB-MOBL-4007 Detect obstacles during clearance operations CEB-MOBL-4008 Breach obstacles for clearance operations CEB-MOBL-4009 Conduct route improvement CEB-MOBL-4010 Install Rope Bridge CEB-MOBL-4011 Impulsy demolitions in support of mobility CEB-DEMO-3001 Destroy bridge with demolitions CEB-DEMO-3002 Provide limited earth moving equipment (MHE) support CEB-MOBL-3001 Provide provisional infantry CEB-DEMO-3002 Provide limited earth moving equipment (MHE) support CEB-MENT-3002 Provide limited earth moving equipment (MHE) support CEB-MENT-3003 Perform operator/crew level maintenance on ABV CEB-MOBL-3001 Engage targets with MK153 SMAW CEB-MOBL-3002 Breach obstacles with the Assault Breacher Vehicle (ABV) CEB-MOBL-3003 Perform operator/crew level maintenance on ABV CEB-MOBL-3001 Engage targets with MK153 SMAW CEB-MOBL-3002 Provide limited earth moving equipment (MHE) support CEB-MOBL-3003 Perform operator/crew level maintenance on ABV CEB-MOBL-3001 Engage targets with MK153 SMAW CEB-MOBL-3002 Breach obstacles with the Assault Breacher Vehicle (ABV) CEB-MOBL-3003 Provide limited earth moving equipment (MHE) CEB-MOBL-3001 Engage targets wit	CEB-PLAN-6001	Plan engineer operations
CEB-HORZ-5001 Conduct horizontal construction	CEB-DEMO-5001	Conduct demolition operations
CEB-HORZ-5002 Prepare site for construction CEB-MANT-5001 Maintain engineer equipment CEB-MOBL-5001 Conduct obstacle breaching operations CEB-MOBL-5002 Conduct route clearance operations CEB-MOBL-5003 Construct expedient Helicopter Landing Zone (HLZ) CEB-MOBL-5004 Construct combat roads CEB-PINF-5001 Provide provisional infantry CEB-HORD-4001 Conduct (MHE) operations CEB-MOBL-4001 Conduct deliberate breach CEB-MOBL-4002 Conduct hasty/in-stride breach CEB-MOBL-4003 Conduct assault breach CEB-MOBL-4004 Conduct covert breach CEB-MOBL-4005 Conduct dismounted route sweep operations CEB-MOBL-4006 Conduct dismounted route sweep operations CEB-MOBL-4007 Detect obstacles during clearance operations CEB-MOBL-4009 Conduct route improvement CEB-MOBL-4009 Conduct route improvement CEB-MOBL-4011 Employ demolitions in support of mobility CEB-PINF-4001 Provide provisional infantry CEB-DEMO-3001 Destroy bridge with demolitions CEB-DEMO-3002 Destroy tunnel with demolitions CEB-DEMO-3001 Destroy bridge with demolitions CEB-DEMO-3001 Destroy bridge with demolitions CEB-DEMO-3001 Provide limited Material Handling Equipment (MHE) support CEB-HEOP-3002 Provide limited Material Handling Equipment (MHE) support CEB-MOBL-3001 Perform operator/crew level maintenance on ABV CEB-MOBL-3001 Engage targets with MK153 SMAW CEB-MOBL-3001	CEB-HEOP-5001	Provide engineer equipment support
CEB-MOBL-5001 Maintain engineer equipment CEB-MOBL-5001 Conduct obstacle breaching operations CEB-MOBL-5002 Conduct route clearance operations CEB-MOBL-5003 Construct expedient Helicopter Landing Zone (HLZ) CEB-MOBL-5004 Construct combat roads CEB-PINF-5001 Provide provisional infantry CEB-HEOP-4001 Conduct (MHE) operations CEB-MOBL-4001 Conduct deliberate breach CEB-MOBL-4002 Conduct deliberate breach CEB-MOBL-4003 Conduct assault breach CEB-MOBL-4004 Conduct dismounted route sweep operations CEB-MOBL-4005 Conduct dismounted route sweep operations CEB-MOBL-4006 Conduct security for clearance operations CEB-MOBL-4007 Detect obstacles during clearance operations CEB-MOBL-4008 Breach obstacles for clearance operations CEB-MOBL-4009 Conduct route improvement CEB-MOBL-4010 Install Rope Bridge CEB-MOBL-4011 Employ demolitions in support of mobility CEB-PINF-4001 Provide provisional infantry CEB-DEMO-3001 Destroy optimize arms and ammunition with demolitions CEB-DEMO-3002 Destroy bridge with demolitions CEB-DEMO-3004 Destroy bridge with demolitions CEB-DEMO-3005 Destroy bridge with demolitions CEB-DEMO-3006 Postroy unitled Material Handling Equipment (MHE) support CEB-HEOP-3001 Provide limited Material Handling Equipment (MHE) support CEB-HEOP-3002 Provide limited earth moving equipment support CEB-MANT-3003 Perform operator/crew level maintenance on AVLB CEB-MOBL-3004 Provide limited earth moving equipment (MHE) support CEB-MOBL-3005 Provide limited earth moving equipment (MHE) support CEB-MOBL-3006 Perform operator/crew level maintenance on AVLB CEB-MOBL-3007 Remotely detect explosive hasards CEB-MOBL-3008 Remotely reduce explosive hazards CEB-MOBL-3009 Employ a heavy machinegun CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3010 Employ a heavy machinegun CEB-MOBL-3011 Fell standing timber CEB-MOBL-3011 Operate small craft	CEB-HORZ-5001	Conduct horizontal construction
CEB-MOBL-5001 Conduct obstacle breaching operations CEB-MOBL-5002 Conduct route clearance operations CEB-MOBL-5003 Construct expedient Helicopter Landing Zone (HLZ) CEB-MOBL-5004 Construct combat roads CEB-PINF-5001 Provide provisional infantry CEB-HEOP-4001 Conduct (MHE) operations CEB-MOBL-4001 Conduct deliberate breach CEB-MOBL-4002 Conduct basty/in-stride breach CEB-MOBL-4003 Conduct assault breach CEB-MOBL-4005 Conduct dismounted route sweep operations CEB-MOBL-4005 Conduct dismounted route sweep operations CEB-MOBL-4007 Detect obstacles during clearance operations CEB-MOBL-4008 Breach obstacles for clearance operations CEB-MOBL-4001 Install Rope Bridge CEB-MOBL-4010 Install Rope Bridge CEB-MOBL-4010 Employ demolitions in support of mobility CEB-PINF-401 Provide provisional infantry CEB-DEMO-3001 Destroy captured arms and ammunition with demolitions CEB-DEMO-3002 Destroy bridge with demolitions CEB-DEMO-3003 Destroy bridge with demolitions CEB-DEMO-3004 Destroy building with demolitions CEB-DEMO-3005 Provide Limited Material Handling Equipment (MHE) support CEB-HEOP-3001 Provide Limited Material Handling Equipment support CEB-HEOP-3002 Perform operator/crew level maintenance on ABV CEB-MANT-3003 Engage targets with MK153 SMAW CEB-MOBL-3004 Create a lane through an obstacle CEB-MOBL-3005 Proof a lane through an obstacle CEB-MOBL-3006 Remobel, 3007 Remotely detect explosive hazards CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3008 Remotely reduce explosive hazards CEB-MOBL-3009 Employ a heavy machinegun CEB-MOBL-3010 Employ a heavy machinegun CEB-MOBL-3011 Fell standing timber CEB-MOBL-3011 Employ a heavy machinegun CEB-MOBL-3012 Employ a heavy machinegun CEB-MOBL-3013 Operate small craft CEB-MOBL-3013 Operate small craft	CEB-HORZ-5002	Prepare site for construction
CEB-MOBL-5002 Conduct route clearance operations CEB-MOBL-5003 Construct expedient Helicopter Landing Zone (HLZ) CEB-MOBL-5004 Construct combat roads CEB-PINF-5001 Provide provisional infantry CEB-HEOP-4001 Conduct (MHE) operations CEB-MOBL-4001 Conduct deliberate breach CEB-MOBL-4002 Conduct hasty/in-stride breach CEB-MOBL-4003 Conduct assault breach CEB-MOBL-4005 Conduct dismounted route sweep operations CEB-MOBL-4006 Conduct security for clearance operations CEB-MOBL-4007 Detect obstacles during clearance operations CEB-MOBL-4008 Breach obstacles for clearance operations CEB-MOBL-4009 Conduct route improvement CEB-MOBL-4010 Install Rope Bridge CEB-MOBL-4010 Provide provisional infantry CEB-PINF-4001 Provide provisional infantry CEB-DEMO-3001 Destroy captured arms and ammunition with demolitions CEB-DEMO-3002 Destroy bridge with demolitions CEB-DEMO-3004 Destroy building with demolitions CEB-DEMO-3002 Provide Limited Material Handling Equipment (MHE) support CEB-MOBL-3001 Provide Limited Material Handling Equipment (MHE) support CEB-MOBL-3002 Provide limited earth moving equipment support CEB-MOBL-3003 Perform operator/crew level maintenance on ABV CEB-MOBL-3003 Conduct an urban breach CEB-MOBL-3004 Proform operator/crew level maintenance on AVLB CEB-MOBL-3005 Profor a lane through an obstacle CEB-MOBL-3006 Mark a lane through an obstacle CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3008 Employ a heavy machinegun CEB-MOBL-3009 Employ a heavy machinegun CEB-MOBL-3010 Employ a heavy machinegun CEB-MOBL-3011 Employ a heavy machinegun CEB-MOBL-3012 Employ the Armored Vehicle Launched Bridge (AVLB)	CEB-MANT-5001	
CEB-MOBL-5003 Construct expedient Helicopter Landing Zone (HLZ) CEB-MOBL-5004 Construct combat roads CEB-PINF-5001 Provide provisional infantry CEB-HEOP-4001 Conduct (MHE) operations CEB-MOBL-4001 Conduct deliberate breach CEB-MOBL-4002 Conduct hasty/in-stride breach CEB-MOBL-4003 Conduct assault breach CEB-MOBL-4004 Conduct covert breach CEB-MOBL-4006 Conduct dismounted route sweep operations CEB-MOBL-4007 Detect obstacles during clearance operations CEB-MOBL-4008 Breach obstacles for clearance operations CEB-MOBL-4009 Conduct route improvement CEB-MOBL-4010 Install Rope Bridge CEB-MOBL-4011 Employ demolitions in support of mobility CEB-PINF-4001 Provide provisional infantry CEB-DEMO-3001 Destroy captured arms and ammunition with demolitions CEB-DEMO-3002 Destroy building with demolitions CEB-DEMO-3003 Destroy building with demolitions CEB-DEMO-3004 Destroy building with demolitions CEB-DEMO-3001 Provide Limited Material Handling Equipment (MHE) support CEB-HEOP-3002 Provide limited earth moving equipment support CEB-HEOP-3002 Perform operator/crew level maintenance on ABV CEB-MOBL-3001 Engage targets with MK153 SMAW CEB-MOBL-3001 Engage targets with MK153 SMAW CEB-MOBL-3002 Breach obstacles with the Assault Breacher Vehicle (ABV) CEB-MOBL-3004 Create a lane through an obstacle CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3008 Remotely reduce explosive hazards CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3007 Employ a heavy machinegun CEB-MOBL-3010 Employ a heavy machinegun CEB-MOBL-3011 Fell standing timber CEB-MOBL-3011 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-MOBL-5001	Conduct obstacle breaching operations
CEB-MOBL-5004 Construct combat roads CEB-PINF-5001 Provide provisional infantry CEB-HEDP-4001 Conduct (MHE) operations CEB-MOBL-4001 Conduct deliberate breach CEB-MOBL-4002 Conduct hasty/in-stride breach CEB-MOBL-4003 Conduct assault breach CEB-MOBL-4005 Conduct dismounted route sweep operations CEB-MOBL-4006 Conduct security for clearance operations CEB-MOBL-4007 Detect obstacles during clearance operations CEB-MOBL-4008 Breach obstacles for clearance operations CEB-MOBL-4009 Conduct route improvement CEB-MOBL-4010 Install Rope Bridge CEB-MOBL-4011 Employ demolitions in support of mobility CEB-PINF-4001 Provide provisional infantry CEB-DEMO-3001 Destroy bridge with demolitions CEB-DEMO-3002 Destroy bridge with demolitions CEB-DEMO-3004 Destroy bridge with demolitions CEB-DEMO-3004 Destroy bridge with demolitions CEB-BENDEMO-3001 Provide Limited Material Handling Equipment (MHE) support CEB-HEOP-3001 Provide limited earth moving equipment support CEB-HEOP-3002 Provide limited earth moving equipment support CEB-MANT-3002 Profrom operator/crew level maintenance on ABV CEB-MANT-3003 Perform operator/crew level maintenance on AVLB CEB-MOBL-3001 Engage targets with MKL53 SMAW CEB-MOBL-3003 Proof a lane through an obstacle CEB-MOBL-3004 Create a lane through an obstacle CEB-MOBL-3005 Mark a lane through an obstacle CEB-MOBL-3006 Mark a lane through an obstacle CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3008 Employ a medium machinegum CEB-MOBL-3009 Employ a heavy machinegum CEB-MOBL-3001 Employ a heavy machinegum CEB-MOBL-3001 Employ a heavy machinegum CEB-MOBL-3010 Employ a heavy machinegum CEB-MOBL-3011 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-MOBL-5002	=
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CEB-HEOP-4001 Conduct (MHE) operations CEB-MOBL-4001 Conduct deliberate breach CEB-MOBL-4003 Conduct hasty/in-stride breach CEB-MOBL-4003 Conduct assault breach CEB-MOBL-4004 Conduct covert breach CEB-MOBL-4005 Conduct dismounted route sweep operations CEB-MOBL-4006 Conduct security for clearance operations CEB-MOBL-4007 Detect obstacles during clearance operations CEB-MOBL-4008 Breach obstacles for clearance operations CEB-MOBL-4000 Install Rope Bridge CEB-MOBL-4010 Install Rope Bridge CEB-MOBL-4011 Employ demolitions in support of mobility CEB-PINF-4001 Provide provisional infantry CEB-DEMO-3001 Destroy captured arms and ammunition with demolitions CEB-DEMO-3002 Destroy bridge with demolitions CEB-DEMO-3003 Destroy building with demolitions CEB-HEOP-3001 Provide Limited Material Handling Equipment (MHE) support CEB-HEOP-3001 Maintain engineer equipment CEB-MANT-3002 Perform operator/crew level maintenance on ABV CEB-MANT-3003 Perform operator/crew level maintenance on AVLB CEB-MOBL-3004 Create a lane through an obstacle CEB-MOBL-3005 Remotely detect explosive hazards CEB-MOBL-3006 Mark a lane through an obstacle CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3008 Employ a heavy machinegun CEB-MOBL-3001 Employ a heavy machinegun CEB-MOBL-3001 Employ a heavy machinegun CEB-MOBL-3011 Employ a heavy machinegun CEB-MOBL-3011 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3011 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-MOBL-5004	Construct combat roads
CEB-MOBL-4001 Conduct deliberate breach CEB-MOBL-4002 Conduct hasty/in-stride breach CEB-MOBL-4003 Conduct assault breach CEB-MOBL-4004 Conduct covert breach CEB-MOBL-4005 Conduct dismounted route sweep operations CEB-MOBL-4006 Conduct security for clearance operations CEB-MOBL-4007 Detect obstacles during clearance operations CEB-MOBL-4008 Breach obstacles for clearance operations CEB-MOBL-4009 Conduct route improvement CEB-MOBL-4010 Install Rope Bridge CEB-MOBL-4011 Employ demolitions in support of mobility CEB-PINF-4001 Provide provisional infantry CEB-DEMO-3001 Destroy captured arms and ammunition with demolitions CEB-DEMO-3002 Destroy bridge with demolitions CEB-DEMO-3003 Destroy tunnel with demolitions CEB-DEMO-3004 Destroy building with demolitions CEB-HEOP-3001 Provide limited Material Handling Equipment (MHE) support CEB-HEOP-3001 Provide limited earth moving equipment support CEB-MANT-3001 Maintain engineer equipment CEB-MANT-3001 Perform operator/crew level maintenance on ABV CEB-MOBL-3001 Proform operator/crew level maintenance on AVLB CEB-MOBL-3001 Breach obstacles with MK153 SMAW CEB-MOBL-3001 Conduct an urban breach CEB-MOBL-3004 Create a lane through an obstacle CEB-MOBL-3005 Proof a lane through an obstacle CEB-MOBL-3006 Mark a lane through an obstacle CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3009 Employ a medium machinegun CEB-MOBL-3001 Employ a heavy machinegun CEB-MOBL-3011 Ell standing timber CEB-MOBL-3012 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-PINF-5001	Provide provisional infantry
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CEB-MOBL-4007 Detect obstacles during clearance operations CEB-MOBL-4008 Breach obstacles for clearance operations CEB-MOBL-4009 Conduct route improvement CEB-MOBL-4010 Install Rope Bridge CEB-MOBL-4011 Employ demolitions in support of mobility CEB-PINF-4001 Provide provisional infantry CEB-DEMO-3001 Destroy captured arms and ammunition with demolitions CEB-DEMO-3002 Destroy bridge with demolitions CEB-DEMO-3003 Destroy tunnel with demolitions CEB-DEMO-3004 Destroy building with demolitions CEB-DEMO-3001 Provide Limited Material Handling Equipment (MHE) support CEB-HEOP-3001 Provide limited earth moving equipment support CEB-MANT-301 Maintain engineer equipment CEB-MANT-3002 Perform operator/crew level maintenance on ABV CEB-MOBL-3003 Engage targets with MKI53 SMAW CEB-MOBL-3001 Engage targets with MKI53 SMAW CEB-MOBL-3001 Conduct an urban breach CEB-MOBL-3004 Create a lane through an obstacle CEB-MOBL-3005 Proof a lane through an obstacle CEB-MOBL-3006 Mark a lane through an obstacle CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3008 Remotely reduce explosive hazards CEB-MOBL-3009 Employ a medium machinegun CEB-MOBL-3010 Employ a heavy machinegun CEB-MOBL-3011 Fell standing timber CEB-MOBL-3013 Operate small craft	CEB-MOBL-4005	Conduct dismounted route sweep operations
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CEB-MOBL-4009 Conduct route improvement CEB-MOBL-4010 Install Rope Bridge CEB-MOBL-4011 Employ demolitions in support of mobility CEB-PINF-4001 Provide provisional infantry CEB-DEMO-3001 Destroy captured arms and ammunition with demolitions CEB-DEMO-3002 Destroy bridge with demolitions CEB-DEMO-3003 Destroy tunnel with demolitions CEB-DEMO-3004 Destroy building with demolitions CEB-DEMO-3004 Provide Limited Material Handling Equipment (MHE) support CEB-HEOP-3001 Provide Limited earth moving equipment support CEB-HEOP-3002 Provide limited earth moving equipment support CEB-MANT-3001 Maintain engineer equipment CEB-MANT-3002 Perform operator/crew level maintenance on ABV CEB-MANT-3003 Perform operator/crew level maintenance on AVLB CEB-MOBL-3001 Engage targets with MK153 SMAW CEB-MOBL-3002 Breach obstacles with the Assault Breacher Vehicle (ABV) CEB-MOBL-3003 Conduct an urban breach CEB-MOBL-3004 Create a lane through an obstacle CEB-MOBL-3005 Proof a lane through an obstacle CEB-MOBL-3006 Mark a lane through an obstacle CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3008 Employ a medium machinegun CEB-MOBL-3009 Employ a medium machinegun CEB-MOBL-3010 Employ a heavy machinegun CEB-MOBL-3011 Fell standing timber CEB-MOBL-3012 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-MOBL-4007	
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CEB-DEMO-3002 Destroy bridge with demolitions CEB-DEMO-3003 Destroy tunnel with demolitions CEB-DEMO-3004 Destroy building with demolitions CEB-HEOP-3001 Provide Limited Material Handling Equipment (MHE) support CEB-HEOP-3002 Provide limited earth moving equipment support CEB-MANT-3001 Maintain engineer equipment CEB-MANT-3002 Perform operator/crew level maintenance on ABV CEB-MANT-3003 Perform operator/crew level maintenance on AVLB CEB-MOBL-3001 Engage targets with MK153 SMAW CEB-MOBL-3002 Breach obstacles with the Assault Breacher Vehicle (ABV) CEB-MOBL-3003 Conduct an urban breach CEB-MOBL-3004 Create a lane through an obstacle CEB-MOBL-3005 Proof a lane through an obstacle CEB-MOBL-3006 Mark a lane through an obstacle CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3008 Remotely reduce explosive hazards CEB-MOBL-3009 Employ a medium machinegun CEB-MOBL-3010 Employ a heavy machinegun CEB-MOBL-3011 Fell standing timber CEB-MOBL-3012 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-PINF-4001	
CEB-DEMO-3003 Destroy tunnel with demolitions CEB-DEMO-3004 Destroy building with demolitions CEB-HEOP-3001 Provide Limited Material Handling Equipment (MHE) support CEB-HEOP-3002 Provide limited earth moving equipment support CEB-MANT-3001 Maintain engineer equipment CEB-MANT-3002 Perform operator/crew level maintenance on ABV CEB-MANT-3003 Perform operator/crew level maintenance on AVLB CEB-MOBL-3001 Engage targets with MK153 SMAW CEB-MOBL-3002 Conduct an urban breach CEB-MOBL-3003 Conduct an urban breach CEB-MOBL-3004 Create a lane through an obstacle CEB-MOBL-3005 Proof a lane through an obstacle CEB-MOBL-3006 Mark a lane through an obstacle CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3008 Remotely reduce explosive hazards CEB-MOBL-3009 Employ a medium machinegun CEB-MOBL-3011 Fell standing timber CEB-MOBL-3012 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-DEMO-3001	
CEB-DEMO-3004 Destroy building with demolitions CEB-HEOP-3001 Provide Limited Material Handling Equipment (MHE) support CEB-HEOP-3002 Provide limited earth moving equipment support CEB-MANT-3001 Maintain engineer equipment CEB-MANT-3002 Perform operator/crew level maintenance on ABV CEB-MANT-3003 Perform operator/crew level maintenance on AVLB CEB-MOBL-3001 Engage targets with MK153 SMAW CEB-MOBL-3002 Breach obstacles with the Assault Breacher Vehicle (ABV) CEB-MOBL-3003 Conduct an urban breach CEB-MOBL-3004 Create a lane through an obstacle CEB-MOBL-3005 Proof a lane through an obstacle CEB-MOBL-3006 Mark a lane through an obstacle CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3008 Remotely reduce explosive hazards CEB-MOBL-3009 Employ a medium machinegun CEB-MOBL-3010 Employ a heavy machinegun CEB-MOBL-3011 Fell standing timber CEB-MOBL-3012 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-DEMO-3002	
CEB-HEOP-3001 Provide Limited Material Handling Equipment (MHE) support CEB-HEOP-3002 Provide limited earth moving equipment support CEB-MANT-3001 Maintain engineer equipment CEB-MANT-3002 Perform operator/crew level maintenance on ABV CEB-MANT-3003 Perform operator/crew level maintenance on AVLB CEB-MOBL-3001 Engage targets with MK153 SMAW CEB-MOBL-3002 Breach obstacles with the Assault Breacher Vehicle (ABV) CEB-MOBL-3003 Conduct an urban breach CEB-MOBL-3004 Create a lane through an obstacle CEB-MOBL-3005 Proof a lane through an obstacle CEB-MOBL-3006 Mark a lane through an obstacle CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3008 Remotely reduce explosive hazards CEB-MOBL-3009 Employ a medium machinegun CEB-MOBL-3010 Employ a heavy machinegun CEB-MOBL-3011 Fell standing timber CEB-MOBL-3012 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-DEMO-3003	Destroy tunnel with demolitions
CEB-HEOP-3002 Provide limited earth moving equipment support CEB-MANT-3001 Maintain engineer equipment CEB-MANT-3002 Perform operator/crew level maintenance on ABV CEB-MANT-3003 Perform operator/crew level maintenance on AVLB CEB-MOBL-3001 Engage targets with MK153 SMAW CEB-MOBL-3002 Breach obstacles with the Assault Breacher Vehicle (ABV) CEB-MOBL-3003 Conduct an urban breach CEB-MOBL-3004 Create a lane through an obstacle CEB-MOBL-3005 Proof a lane through an obstacle CEB-MOBL-3006 Mark a lane through an obstacle CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3008 Remotely reduce explosive hazards CEB-MOBL-3009 Employ a medium machinegun CEB-MOBL-3010 Employ a heavy machinegun CEB-MOBL-3011 Fell standing timber CEB-MOBL-3012 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-DEMO-3004	
CEB-MANT-3001 Maintain engineer equipment CEB-MANT-3002 Perform operator/crew level maintenance on ABV CEB-MANT-3003 Perform operator/crew level maintenance on AVLB CEB-MOBL-3001 Engage targets with MK153 SMAW CEB-MOBL-3002 Breach obstacles with the Assault Breacher Vehicle (ABV) CEB-MOBL-3003 Conduct an urban breach CEB-MOBL-3004 Create a lane through an obstacle CEB-MOBL-3005 Proof a lane through an obstacle CEB-MOBL-3006 Mark a lane through an obstacle CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3008 Remotely reduce explosive hazards CEB-MOBL-3009 Employ a medium machinegun CEB-MOBL-3010 Employ a heavy machinegun CEB-MOBL-3011 Fell standing timber CEB-MOBL-3012 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-HEOP-3001	
CEB-MANT-3002 Perform operator/crew level maintenance on ABV CEB-MANT-3003 Perform operator/crew level maintenance on AVLB CEB-MOBL-3001 Engage targets with MK153 SMAW CEB-MOBL-3002 Breach obstacles with the Assault Breacher Vehicle (ABV) CEB-MOBL-3003 Conduct an urban breach CEB-MOBL-3004 Create a lane through an obstacle CEB-MOBL-3005 Proof a lane through an obstacle CEB-MOBL-3006 Mark a lane through an obstacle CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3008 Remotely reduce explosive hazards CEB-MOBL-3009 Employ a medium machinegun CEB-MOBL-3010 Employ a heavy machinegun CEB-MOBL-3011 Fell standing timber CEB-MOBL-3012 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-HEOP-3002	
CEB-MANT-3003 Perform operator/crew level maintenance on AVLB CEB-MOBL-3001 Engage targets with MK153 SMAW CEB-MOBL-3002 Breach obstacles with the Assault Breacher Vehicle (ABV) CEB-MOBL-3003 Conduct an urban breach CEB-MOBL-3004 Create a lane through an obstacle CEB-MOBL-3005 Proof a lane through an obstacle CEB-MOBL-3006 Mark a lane through an obstacle CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3008 Remotely reduce explosive hazards CEB-MOBL-3009 Employ a medium machinegun CEB-MOBL-3010 Employ a heavy machinegun CEB-MOBL-3011 Fell standing timber CEB-MOBL-3012 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-MANT-3001	Maintain engineer equipment
CEB-MOBL-3001 Engage targets with MK153 SMAW CEB-MOBL-3002 Breach obstacles with the Assault Breacher Vehicle (ABV) CEB-MOBL-3003 Conduct an urban breach CEB-MOBL-3004 Create a lane through an obstacle CEB-MOBL-3005 Proof a lane through an obstacle CEB-MOBL-3006 Mark a lane through an obstacle CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3008 Remotely reduce explosive hazards CEB-MOBL-3009 Employ a medium machinegun CEB-MOBL-3010 Employ a heavy machinegun CEB-MOBL-3011 Fell standing timber CEB-MOBL-3012 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-MANT-3002	Perform operator/crew level maintenance on ABV
CEB-MOBL-3002 Breach obstacles with the Assault Breacher Vehicle (ABV) CEB-MOBL-3003 Conduct an urban breach CEB-MOBL-3004 Create a lane through an obstacle CEB-MOBL-3005 Proof a lane through an obstacle CEB-MOBL-3006 Mark a lane through an obstacle CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3008 Remotely reduce explosive hazards CEB-MOBL-3009 Employ a medium machinegun CEB-MOBL-3010 Employ a heavy machinegun CEB-MOBL-3011 Fell standing timber CEB-MOBL-3012 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-MANT-3003	Perform operator/crew level maintenance on AVLB
CEB-MOBL-3003 Conduct an urban breach CEB-MOBL-3004 Create a lane through an obstacle CEB-MOBL-3005 Proof a lane through an obstacle CEB-MOBL-3006 Mark a lane through an obstacle CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3008 Remotely reduce explosive hazards CEB-MOBL-3009 Employ a medium machinegun CEB-MOBL-3010 Employ a heavy machinegun CEB-MOBL-3011 Fell standing timber CEB-MOBL-3012 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-MOBL-3001	Engage targets with MK153 SMAW
CEB-MOBL-3004 Create a lane through an obstacle CEB-MOBL-3005 Proof a lane through an obstacle CEB-MOBL-3006 Mark a lane through an obstacle CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3008 Remotely reduce explosive hazards CEB-MOBL-3009 Employ a medium machinegun CEB-MOBL-3010 Employ a heavy machinegun CEB-MOBL-3011 Fell standing timber CEB-MOBL-3012 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-MOBL-3002	
CEB-MOBL-3005 Proof a lane through an obstacle CEB-MOBL-3006 Mark a lane through an obstacle CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3008 Remotely reduce explosive hazards CEB-MOBL-3009 Employ a medium machinegun CEB-MOBL-3010 Employ a heavy machinegun CEB-MOBL-3011 Fell standing timber CEB-MOBL-3012 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-MOBL-3003	Conduct an urban breach
CEB-MOBL-3006 Mark a lane through an obstacle CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3008 Remotely reduce explosive hazards CEB-MOBL-3009 Employ a medium machinegun CEB-MOBL-3010 Employ a heavy machinegun CEB-MOBL-3011 Fell standing timber CEB-MOBL-3012 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-MOBL-3004	Create a lane through an obstacle
CEB-MOBL-3007 Remotely detect explosive hazards CEB-MOBL-3008 Remotely reduce explosive hazards CEB-MOBL-3009 Employ a medium machinegun CEB-MOBL-3010 Employ a heavy machinegun CEB-MOBL-3011 Fell standing timber CEB-MOBL-3012 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-MOBL-3005	Proof a lane through an obstacle
CEB-MOBL-3008 Remotely reduce explosive hazards CEB-MOBL-3009 Employ a medium machinegun CEB-MOBL-3010 Employ a heavy machinegun CEB-MOBL-3011 Fell standing timber CEB-MOBL-3012 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-MOBL-3006	Mark a lane through an obstacle
CEB-MOBL-3009 Employ a medium machinegun CEB-MOBL-3010 Employ a heavy machinegun CEB-MOBL-3011 Fell standing timber CEB-MOBL-3012 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-MOBL-3007	Remotely detect explosive hazards
CEB-MOBL-3010 Employ a heavy machinegun CEB-MOBL-3011 Fell standing timber CEB-MOBL-3012 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-MOBL-3008	Remotely reduce explosive hazards
CEB-MOBL-3011 Fell standing timber CEB-MOBL-3012 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-MOBL-3009	Employ a medium machinegun
CEB-MOBL-3012 Employ the Armored Vehicle Launched Bridge (AVLB) CEB-MOBL-3013 Operate small craft	CEB-MOBL-3010	Employ a heavy machinegun
CEB-MOBL-3013 Operate small craft	CEB-MOBL-3011	Fell standing timber
	CEB-MOBL-3012	Employ the Armored Vehicle Launched Bridge (AVLB)
CEB-MOBL-3014 Conduct route clearance operations	CEB-MOBL-3013	Operate small craft
	CEB-MOBL-3014	Conduct route clearance operations

CEB-MOBL-3015	Conduct area clearance operations
	CT COUNTER-MOBILITY OPERATIONS
CEB-ADMN-7001	Command and control engineer forces
CEB-EOPS-7001	Train engineer forces
CEB-PLAN-7001	Plan engineer operations
CEB-ADMN-6001	Command and control engineer forces
CEB-CMOB-6001	Conduct countermobility operations
CEB-EOPS-6001	Train engineer forces
CEB-EOPS-6002	Conduct limited general engineering operations
CEB-PLAN-6001	Plan engineer operations
CEB-CMOB-5001	Create an obstacle group
CEB-DEMO-5001	Conduct demolition operations
CEB-HEOP-5001	Provide engineer equipment support
CEB-PINF-5001	Fight as provisional infantry
CEB-CMOB-4001	Create an explosive obstacle
CEB-CMOB-4002	Create a non-explosive obstacle/barriers
CEB-CMOB-4003	Employ demolitions in support of countermobility operations
CEB-HEOP-4001	Conduct MHE operations
CEB-PINF-4001	Fight as provisional infantry
CEB-CMOB-3001	Construct field expedient obstacles
CEB-CMOB-3002	Build non-explosive obstacles
CEB-CMOB-3003	Employ explosive obstacles
CEB-DEMO-3001	Destroy captured arms and ammunition with demolitions
CEB-DEMO-3002	Destroy bridge with demolitions
CEB-DEMO-3003	Destroy tunnel with demolitions
CEB-DEMO-3004	Destroy building with demolitions
CEB-HEOP-3001	Provide Material Handling Equipment (MHE) support
CEB-HEOP-3002	Provide earth moving equipment support
	DE AND MAINTAIN ENGINEERING RECONNAISSANCE OPERATIONS
CEB-ADMN-7001	Command and control engineer forces
CEB-EOPS-7001	Train engineer forces
CEB-PLAN-7001	Plan engineer operations
CEB-ADMN-6001	Command and control engineer forces
CEB-EOPS-6001	Train engineer forces
CEB-EOPS-6002	Conduct limited general engineering operations
CEB-PLAN-6001	Plan engineer operations
CEB-RECN-5001	Conduct engineer reconnaissance
CEB-RECN-5002	Conduct cache sweep operations
CEB-RECN-4001	Conduct zone reconnaissance
CEB-RECN-4002	Conduct route reconnaissance
CEB-RECN-4003	Conduct area reconnaissance
CEB-RECN-4004	Conduct cache sweep
CEB-RECN-4005	Conduct engineer reconnaissance
CEB-RECN-4006	Conduct site survey
CEB-MOBL-3002	Breach obstacle with the Assault Breacher Vehicle (ABV)
CEB-RECN-3001	Conduct gap reconnaissance
CEB-RECN-3002	Conduct ferry reconnaissance
CEB-RECN-3003	Conduct cache sweep
CEB-RECN-3004	Conduct tunnel/cave reconnaissance
CEB-RECN-3005	Survey site for construction
CEB-RECN-3006	Conduct obstacle reconnaissance
CEB-RECN-3007	Conduct bridge reconnaissance

CEB-RECN-3008	Conduct road reconnaissance
	CT TACTICAL ELECTRICAL SUPPLY
CEB-ADMN-7001	Command and control engineer forces
CEB-EOPS-7001	Train engineer forces
CEB-PLAN-7001	Plan engineer operations
CEB-ADMN-6001	Command and control engineer forces
CEB-EOPS-6001	Train engineer forces
CEB-EOPS-6002	Conduct limited general engineering operations
CEB-PLAN-6001	Plan engineer operations
CEB-UTIL-5001	Provide utilities support
CEB-HEOP-4001	Conduct MHE operations
CEB-MANT-4001	Maintain engineer equipment
CEB-UTIL-4001	Provide tactical electrical power
CEB-MANT-3004	Maintain tactical power distribution system
CEB-MANT-3005	Maintain Environmental Control Unit(s) (ECU)
CEB-MANT-3006	Maintain refrigeration system(s)
CEB-UTIL-3001	Establish tactical power distribution system
CEB-UTIL-3002	Provide floodlight support
CEB-UTIL-3003	Establish power generation site(s)
CEB-UTIL-3004	Wire a structure for electricity
CEB-UTIL-3005	Provide Environmental Control Unit (ECU) Support
CEB-UTIL-3006	Provide refrigeration support
MCT 6.1.4 CONDU	CT SURVIVABILITY OPERATIONS
CEB-ADMN-7001	Command and control engineer forces
CEB-EOPS-7001	Train engineer forces
CEB-PLAN-7001	Plan engineer operations
CEB-ADMN-6001	Command and control engineer forces
CEB-EOPS-6001	Train engineer forces
CEB-EOPS-6002	Conduct limited general engineering operations
CEB-PLAN-6001	Plan engineer operations
CEB-SURV-6001	Conduct survivability operations
CEB-HEOP-5001	Provide engineer equipment support
CEB-SURV-5001	Construct survivability positions
CEB-HEOP-4001	Conduct MHE operations
CEB-SURV-4001	Harden existing structure
CEB-SURV-4002	Construct field fortifications
CEB-SURV-4003	Construct Vehicle Control Point (VCP)
CEB-SURV-4004	Construct Entry Access Point (EAP)
CEB-SURV-4005	Construct earth filled barrier/structure
CEB-SURV-4006	Employ demolitions in support of survivability operations
CEB-VERT-4005	Rig expedient lifting devices
CEB-HEOP-3001	Provide Material Handling Equipment (MHE) Support
CEB-HEOP-3002	Provide limited earth moving equipment support
CEB-SURV-3001	Construct trenches
CEB-SURV-3002	Construct shelters/bunkers
CEB-SURV-3003	Construct vehicle survivability position/revetment
CEB-SURV-3004	Construct crew served weapons position
CEB-SURV-3005	Construct overhead cover
CEB-SURV-3006	Construct individual fighting position
CEB-SURV-3007	Construct triggering screen
CEB-SURV-3008	Construct vehicle fighting position

2003. DIRECT SUPPORT (DS) COMBAT LOGISTICS BATTALION (CLB) CORE MISSION-ESSENTIAL TASK LIST. The DS CLB METL Table lists the Standardized Core MET, derived from the MCTL, for the DS CLB. This METL is used for readiness reporting in DRRS. The following event codes are the linked evaluation coded (E-Coded) events that support the MET.

DS CLB CORE MISSION-ESSENTIAL TASKS

MARINE CORPS TASK LIST	DS CLB CORE METL
MCT 4.2.2.4	Conduct Repair
MCT 4.3.6	Conduct Material Handling Operations
MCT 4.4.1.1	Conduct Limited Horizontal Construction
MCT 4.4.2.1	Conduct Limited Vertical Construction
MCT 4.4.3.1	Conduct Limited Bulk Liquids Operations
MCT 4.4.4.1	Conduct Limited Tactical Electrical Supply

DS CLB MCT#/MISSION-ESSENTIAL TASK

MCT 4.2.2.4 CONDUCT REPAIR		
CLB-ADMN-6001	Command and control engineer forces	
CLB-EOPS-6001	Train engineer forces	
CLB-MANT-5001	Maintain engineer equipment	
CLB-UTIL-5001	Provide limited utilities support	
CLB-MANT-4001	Maintain engineer equipment	
CLB-MANT-3001	Maintain engineer equipment	
CLB-MANT-3002	Maintain tactical power distribution system(s)	
CLB-MANT-3003	Maintain water purification equipment	
CLB-MANT-3004	Maintain hygiene equipment	
CLB-MANT-3005	Maintain refrigeration system(s)	
CLB-MANT-3006	Maintain Environmental Control Units	
MCT 4.3.6 CONDU	CT MATERIAL HANDLING OPERATIONS	
CLB-ADMN-6001	Command and control engineer forces	
CLB-EOPS-6001	Train engineer forces	
CLB-EOPS-6002	Conduct construction operations	
CLB-PLAN-6001	Plan engineer operations	
CLB-HEOP-5001	Provide engineer equipment support	
CLB-MANT-5001	Maintain engineer equipment	
CLB-MOBL-5001	Conduct obstacle breaching operations	
CLB-MOBL-5002	Conduct breach lane improvement operations	
CLB-MOBL-5003	Construct expedient Helicopter Landing Zone (HLZ)	
CLB-MOBL-5004	Construct combat roads	
CLB-MOBL-5006	Construct tactical landing zones	
CLB-HEOP-4001	Conduct MHE operations	
CLB-MOBL-4006	Conduct route improvement	
CLB-MOBL-4007	Repair runway crater	
CLB-MOBL-4008	Repair spall(s)	
CLB-MOBL-4009	Repair road crater	
CLB-MOBL-4010	Construct expedient Helicopter Landing Zone (HLZ)	
CLB-HEOP-3001	Provide crane support	
CLB-HEOP-3002	Provide Material Handling Equipment (MHE) support	
CLB-HEOP-3003	Provide earth moving equipment support	

CLB-MOBL-3001	Fell standing timber
MOTE 4 4 1 1 CONT	
	DUCT LIMITED HORIZONTAL CONSTRUCTION
CLB-ADMN-6001	Command and control engineer forces
CLB-EOPS-6001	Train engineer forces
CLB-EOPS-6002	Conduct construction operations
CLB-PLAN-6001	Plan engineer operations
CLB-HEOP-5001	Provide engineer equipment support
CLB-HORZ-5001	Conduct limited horizontal construction
CLB-HORZ-5002	Prepare site for construction
	-
	-
CLB-HEOP-4001	
CLB-RECN-4001	
CLB-VERT-4001	
CLB-VERT-4002	
CLB-VERT-4003	Construct concrete block structure
CLB-VERT-4004	Construct timber structure
CLB-VERT-4005	Repair existing structures
CLB-VERT-4006	Construct concrete structure
CLB-VERT-4007	Construct manufactured steel structure
CLB-HEOP-3002	Provide Material Handling Equipment (MHE) support
CLB-HEOP-3003	Provide earth moving equipment support
CLB-HORZ-3001	Conduct dust abatement
CLB-RECN-3001	Survey site for construction
MCT 4.4.3.1 CON	DUCT LIMITED BULK LIQUIDS OPERATIONS
CLB-ADMN-6001	Command and control engineer forces
CLB-EOPS-6001	Train engineer forces
CLB-EOPS-6002	Conduct construction operations
CLB-PLAN-6001	Plan engineer operations
CLB-HEOP-5001	Provide engineer equipment support
CLB-MANT-5001	Maintain engineer equipment
CLB-UTIL-5001	
CLB-MOBL-5003 CLB-MOBL-5004 CLB-MOBL-5006 CLB-RECN-5001 CLB-HORZ-4001 CLB-HORZ-4002 CLB-MOBL-4006 CLB-MOBL-4009 CLB-MOBL-4010 CLB-MOBL-4010 CLB-RECN-4001 CLB-RECN-3002 CLB-HEOP-3003 CLB-HEOP-3003 CLB-B-ECN-3001 CLB-ADMN-6001 CLB-EOPS-6001 CLB-EOPS-6001 CLB-EOPS-6001 CLB-B-ECN-5001 CLB-RECN-5001 CLB-RECN-4001 CLB-RECN-4001 CLB-RECN-5001	Construct expedient Helicopter Landing Zone (HLZ) Construct combat roads Construct tactical landing zones Conduct engineer reconnaissance Conduct horizontal construction Conduct expedient drainage structure Conduct route improvement Repair road crater Construct expedient Helicopter Landing Zone (HLZ) Conduct Site Survey Provide Material Handling Equipment (MHE) support Provide earth moving equipment support Conduct dust abatement Survey site for construction DUCT LIMITED VERTICAL CONSTRUCTION Command and control engineer forces Train engineer forces Conduct construction operations Plan engineer equipment support Conduct engineer reconnaissance Conduct limited vertical construction Conduct Site Survey Conduct limited vertical construction Construct wood frame structure Construct concrete block structure Construct timber structure Repair existing structures Construct tonorete structure Construct tonorete structure Construct data tend structure Provide Material Handling Equipment (MHE) support Provide earth moving equipment support Conduct dust abatement Survey site for construction DUCT LIMITED BULK LIQUIDS OPERATIONS Command and control engineer forces Train engineer operations Plan engineer operations Provide engineer equipment support

CLB-MANT-4001	Maintain engineer equipment
CLB-RECN-4001	Conduct Site Survey
CLB-UTIL-4002	Provide limited potable water
CLB-UTIL-4003	Provide tactical hygiene support
CLB-FUEL-3001	Operate bulk fuel distribution site
CLB-FUEL-3002	Provide tactical bulk fuel storage
CLB-HEOP-3002	Provide Material Handling Equipment (MHE) support
CLB-HEOP-3003	Provide earth moving equipment support
CLB-HORZ-3001	Conduct dust abatement
CLB-RECN-3001	Survey site for construction
CLB-UTIL-3007	Produce potable water
CLB-UTIL-3008	Store potable water
CLB-UTIL-3009	Establish water distribution site
CLB-UTIL-3010	Provide laundry services
CLB-UTIL-3011	Provide shower services
CLB-UTIL-3012	Install plumbing in a structure
	DUCT LIMITED TACTICAL ELECTRICAL SUPPLY
CLB-ADMN-6001	Command and control engineer forces
CLB-EOPS-6001	Train engineer forces
CLB-EOPS-6002	Conduct construction operations
CLB-PLAN-6001	Plan engineer operations
CLB-MANT-5001	Maintain engineer equipment
CLB-UTIL-5001	Provide limited utilities support
CLB-VERT-5001	Conduct limited vertical construction
CLB-MANT-4001	Maintain engineer equipment
CLB-UTIL-4001	Provide limited tactical electrical power
CLB-VERT-4001	Conduct limited vertical construction
CLB-VERT-4002	Construct wood frame structure
CLB-VERT-4005	Repair existing structure
CLB-VERT-4007	Construct manufactured steel structure
CLB-UTIL-3001	Establish tactical power distribution system
CLB-UTIL-3002	Provide floodlight support
CLB-UTIL-3003	Establish power generation sites
CLB-UTIL-3004	Wire a structure for electricity
CLB-UTIL-3005	Provide Environmental Control Unit (ECU) support
CLB-UTIL-3006	Provide refrigeration support
CLB-UTIL-3010	Provide laundry services
CLB-UTIL-3011	Provide shower services

2004. ENGINEER SUPPORT BATTALION (ESB CORE) MISSION-ESSENTIAL TASK LIST. The ESB METL Table lists the Standardized Core MET, derived from the MCTL, for the ESB. This METL is used for readiness reporting in DRRS. The following event codes are the linked evaluation coded (E-Coded) events that support the MET.

ESB CORE MISSION-ESSENTIAL TASK

MARINE CORPS TASK LIST	ESB CORE METL
MCT 1.1.2	Provide Task-Organized Forces
MCT 1.4.1	Conduct Mobility Operations

MCT 1.4.2	Conduct Counter-Mobility Operations
MCT 2.2.2	Provide and Maintain Engineering Reconnaissance Operations
MCT 4.4.1	Conduct Horizontal Construction
MCT 4.4.2	Conduct Vertical Construction
MCT 4.4.3	Conduct Bulk Liquids Operations
MCT 4.4.4	Conduct Tactical Electrical Supply
MCT 6.1.4	Conduct Survivability Operations

MCT#/MISSION-ESSENTIAL TASK

MCT 1.1.2 PROVI	DE TASK-ORGANIZED FORCES
ESB-ADMN-7001	Command and control engineer forces
ESB-EOPS-7001	Train engineer forces
ESB-PLAN-7001	Plan engineer operations
ESB-ADMN-6001	Command and control engineer forces
ESB-CMOB-6001	Conduct countermobility operations
ESB-EOPS-6001	Train engineer forces
ESB-EOPS-6002	Conduct engineer operations
ESB-FUEL-6001	Conduct tactical bulk fuel operations
ESB-MOBL-6001	Conduct mobility operations
ESB-PINF-6001	Provide provisional infantry
ESB-PLAN-6001	Plan engineer operations
ESB-SURV-6001	Conduct survivability operations
ESB-HEOP-5001	Provide engineer equipment support
ESB-MANT-5001	Maintain engineer equipment
ESB-PINF-5001	Provide provisional infantry
ESB-UTIL-5001	Provide utilities support
ESB-PINF-4001	Fight as provisional infantry
ESB-MANT-3002	Employ maintenance team
	CT MOBILITY OPERATIONS
ESB-ADMN-7001	Command and control engineer forces
ESB-EOPS-7001	Train engineer forces
ESB-PLAN-7001	Plan engineer operations
ESB-ADMN-6001	Command and control engineer forces
ESB-EOPS-6001	Train engineer forces
ESB-EOPS-6002	Conduct engineer operations
ESB-MOBL-6001	Conduct mobility operations
ESB-MOBL-6002	Employ non-standard bridging
ESB-PINF-6001	Provide provisional infantry
ESB-PLAN-6001	Plan engineer operations
ESB-DEMO-5001	Conduct demolition operations
ESB-HEOP-5001	Provide engineer equipment support
ESB-HORZ-5001	Conduct horizontal construction
ESB-HORZ-5002	Prepare site for construction
ESB-MANT-5001	Maintain engineer equipment
ESB-MOBL-5001	Conduct obstacle breaching operations
ESB-MOBL-5002	Conduct breach lane improvement operations
ESB-MOBL-5003	Construct expedient Helicopter Landing Zone (HLZ)
ESB-MOBL-5004	Construct combat roads
ESB-MOBL-5005	Install medium girder bridge
ESB-MOBL-5006	Install ribbon bridge
ESB-MOBL-5007	Construct non-standard bridge

ESB-MOBL-5008	Repair non-standard bridge
ESB-MOBL-5009	Conduct rafting operations
ESB-MOBL-5010	Conduct area clearance operations
ESB-MOBL-5011	Construct tactical landing zones
ESB-MOBL-5012	Conduct airfield damage repair
ESB-PINF-5001	Provide provisional infantry
ESB-VERT-5001	Conduct vertical construction
ESB-UTIL-5001	Provide utilities support
ESB-HEOP-4001	Conduct MHE operations
ESB-HORZ-4001	Conduct horizontal construction
ESB-HORZ-4002	Construct expedient drainage structure
ESB-MANT-4001	Maintain engineer equipment
ESB-MOBL-4001	Conduct security for clearance operations
ESB-MOBL-4002	Detect obstacles during clearance operations
ESB-MOBL-4003	Breach obstacles for clearance operations
ESB-MOBL-4004	Conduct dismounted route sweep operations
ESB-MOBL-4005	Conduct deliberate breach
ESB-MOBL-4006	Conduct route improvement
ESB-MOBL-4007	Repair runway crater
ESB-MOBL-4008	Repair spall(s)
ESB-MOBL-4009	Repair road crater
ESB-MOBL-4010	Employ demolitions in support of mobility
ESB-MOBL-4011	Assemble medium girder bridge
ESB-MOBL-4012	Assemble ribbon bridge
ESB-MOBL-4013	Assemble ribbon raft
ESB-MOBL-4014	Maneuver a standard military ribbon raft
ESB-PINF-4001	Fight as provisional infantry
ESB-DEMO-3001	Destroy captured arms and ammunitions with demolitions
ESB-DEMO-3002	Destroy Bridge with demolitions
ESB-DEMO-3003	Destroy tunnel with demolitions
ESB-DEMO-3004	Destroy building with demolitions
ESB-HEOP-3001	Provide crane support
ESB-HEOP-3002	Provide Material Handling Equipment (MHE) support
ESB-HEOP-3003	Provide earth moving equipment support
ESB-HORZ-3001	Conduct dust abatement
ESB-MANT-3001	Maintain engineer equipment
ESB-MANT-3002	Employ maintenance team
ESB-MOBL-3001	Operate small craft
ESB-MOBL-3002	Employ a medium machinegun team
ESB-MOBL-3003	Employ a heavy machinegun team
ESB-MOBL-3004	Fell standing timber
ESB-MOBL-3005	Create a lane through an obstacle
ESB-MOBL-3006	Proof a lane through an obstacle
ESB-MOBL-3007	Mark a lane through an obstacle
	CT COUNTER-MOBILITY OPERATIONS
ESB-ADMN-7001	Command and control engineer forces
ESB-EOPS-7001	Train engineer forces
ESB-PLAN-7001	Plan engineer operations
ESB-ADMN-6001	Command and control engineer forces
ESB-CMOB-6001	Conduct countermobility operations
ESB-EOPS-6001	Train engineer forces
ESB-EOPS-6002	Conduct engineer operations

ESB-PLAN-6001	Plan engineer operations
ESB-CMOB-5001	Create an obstacle group
ESB-DEMO-5001	Conduct demolition operations
ESB-HEOP-5001	Provide engineer equipment support
ESB-HORZ-5001	Conduct horizontal construction
ESB-HORZ-5002	Prepare site for construction
ESB-MANT-5001	Maintain engineer equipment
ESB-PINF-5001	Provide provisional infantry
ESB-UTIL-5001	Provide utilities support
ESB-CMOB-4001	Create an explosive obstacle
ESB-CMOB-4002	Create a non-explosive obstacle/barriers
ESB-CMOB-4003	Employ demolitions in support of countermobility
	operations
ESB-HEOP-4001	Conduct MHE operations
ESB-HORZ-4001	Conduct horizontal construction
ESB-HORZ-4002	Construct expedient drainage structure
ESB-PINF-4001	Fight as provisional infantry
ESB-CMOB-3001	Employ explosive obstacles
ESB-CMOB-3002	Build non-explosive obstacles
ESB-CMOB-3003	Construct demolition obstacles
ESB-DEMO-3001	Destroy captured arms and ammunitions with demolitions
ESB-DEMO-3002	Destroy Bridge with demolitions
ESB-DEMO-3003	Destroy tunnel with demolitions
ESB-DEMO-3004	Destroy building with demolitions
ESB-HEOP-3001	Provide crane support
ESB-HEOP-3002	Provide Material Handling Equipment (MHE) support
ESB-HEOP-3003	Provide earth moving equipment support
ESB-HORZ-3001	Conduct dust abatement
ESB-MANT-3002	Employ maintenance team
ESB-MOBL-3004	Fell standing timber
MCT 2.2.2 PROVI	DE AND MAINTAIN ENGINEERING RECONNAISSANCE OPERATIONS
ESB-ADMN-7001	Command and control engineer forces
ESB-EOPS-7001	Train engineer forces
ESB-PLAN-7001	Plan engineer operations
ESB-ADMN-6001	Command and control engineer forces
ESB-EOPS-6001	Train engineer forces
ESB-EOPS-6002	Conduct engineer operations
ESB-PLAN-6001	Plan engineer operations
ESB-RECN-5001	Conduct engineer reconnaissance
ESB-RECN-5002	Conduct cache sweep operations
ESB-RECN-4001	Conduct site survey
ESB-RECN-4002	Conduct cache sweep operations
ESB-RECN-4003	Conduct zone reconnaissance
ESB-RECN-4004	Conduct route reconnaissance
ESB-RECN-4005	Conduct area reconnaissance
ESB-MOBL-3001	Operate small craft
ESB-RECN-3001	Survey site for construction
ESB-RECN-3002	Conduct cache sweep
ESB-RECN-3003	Conduct obstacle reconnaissance
ESB-RECN-3004	Conduct bridge reconnaissance
ESB-RECN-3005	Conduct road reconnaissance
ESB-RECN-3006	Assess damage to airfield surface

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ESB-RECN-3007	Assess damage to airfield facilities and structures
ESB-RECN-3008	Conduct gap reconnaissance
	CT HORIZONTAL CONSTRUCTION
ESB-ADMN-7001	Command and control engineer forces
ESB-EOPS-7001	Train engineer forces
ESB-PLAN-7001	Plan engineer operations
ESB-ADMN-6001	Command and control engineer forces
ESB-EOPS-6001	Train engineer forces
ESB-EOPS-6002	Conduct engineer operations
ESB-PLAN-6001	Plan engineer operations
ESB-HEOP-5001	Provide engineer equipment support
ESB-HORZ-5001	Conduct horizontal construction
ESB-HORZ-5002	Prepare site for construction
ESB-MANT-5001	Maintain engineer equipment
ESB-MOBL-5003	Construct expedient Helicopter Landing Zone
ESB-MOBL-5004	Construct combat roads
ESB-MOBL-5011	Construct tactical landing zone
ESB-HEOP-4001	Conduct MHE operations
ESB-HORZ-4001	Conduct horizontal construction
ESB-HORZ-4002	Construct expedient drainage structure
ESB-MOBL-4006	Conduct route improvement
ESB-MOBL-4007	Repair runway crater
ESB-HEOP-3001	Provide crane support
ESB-HEOP-3002	Provide Material Handling Equipment (MHE) support
ESB-HEOP-3003	Provide earth moving equipment support
ESB-HORZ-3001	Conduct dust abatement
MCT 4.4.2 CONDUC	CT VERTICAL CONSTRUCTION
ESB-ADMN-7001	Command and control engineer forces
ESB-EOPS-7001	Train engineer forces
ESB-PLAN-7001	Plan engineer operations
ESB-ADMN-6001	Command and control engineer forces
ESB-EOPS-6001	Train engineer forces
ESB-EOPS-6002	Conduct engineer operations
ESB-PLAN-6001	Plan engineer operations
ESB-HEOP-5001	Provide engineer equipment support
ESB-VERT-5001	Conduct vertical construction
ESB-HEOP-4001	Conduct MHE operations
ESB-VERT-4001	Conduct vertical construction
ESB-VERT-4002	Construct wood frame structure
ESB-VERT-4003	Construct concrete block structure
ESB-VERT-4004	Construct timber structure
ESB-VERT-4005	Repair existing structures
ESB-VERT-4006	Construct concrete structure
ESB-VERT-4007	Construct manufactured steel structure
ESB-HEOP-3001	Provide crane support
ESB-HEOP-3002	Provide Material Handling Equipment (MHE) Subbort
ESB-HEOP-3002 ESB-HEOP-3003	Provide Material Handling Equipment (MHE) support Provide earth moving equipment support
ESB-HEOP-3003	Provide earth moving equipment support
ESB-HEOP-3003 MCT 4.4.3 CONDUC	Provide earth moving equipment support CT BULK LIQUIDS OPERATIONS
ESB-HEOP-3003 MCT 4.4.3 CONDUCESB-ADMN-7001	Provide earth moving equipment support CT BULK LIQUIDS OPERATIONS Command and control engineer forces
ESB-HEOP-3003 MCT 4.4.3 CONDUCESB-ADMN-7001 ESB-EOPS-7001	Provide earth moving equipment support CT BULK LIQUIDS OPERATIONS Command and control engineer forces Train engineer forces
ESB-HEOP-3003 MCT 4.4.3 CONDUCESB-ADMN-7001	Provide earth moving equipment support CT BULK LIQUIDS OPERATIONS Command and control engineer forces

ESB-EOPS-6001 Conduct tactical bulk fuel operations ESB-PLEL-5001 Conduct tactical bulk fuel operations ESB-FUEL-5002 Conduct tactical bulk fuel operations ESB-FUEL-5002 Conduct tactical bulk fuel operations ESB-HDCP-5001 Provide engineer equipment support ESB-HDCP-5001 Conduct horizontal construction ESB-HDCP-5001 Provide engineer equipment support ESB-HDCP-5001 Provide engineer equipment ESB-HDCP-5001 Provide engineer equipment ESB-HDCP-5001 Provide utilities support ESB-HDCP-5001 Provide utilities support ESB-HUEL-4001 Conduct MiE operations ESB-HUEL-4001 Conduct MiE operations ESB-HDCP-4001 Conduct MiE operations ESB-HDCP-4001 Conduct MiE operations ESB-HDCP-4001 Conduct MiE operations ESB-HDCP-4002 Provide earth moving equipment support ESB-HDCP-3003 Provide earth moving equipment support ESB-HDCP-3001 Provide tactical bulk fuel storage ESB-HDCP-3001 Provide tactical bulk fuel storage ESB-HDCP-3001 Provide carne support ESB-HDCP-3002 Provide daterial Handling Equipment (MHE) support ESB-HDCP-3003 Provide earth moving equipment support ESB-HDCP-3001 Provide carne support ESB-HDCP-3001 Provide carne support ESB-HDCP-3002 Provide Material Handling Equipment (MHE) support ESB-HDCP-3003 Provide earth moving equipment ESB-MANT-3004 Maintain water purification equipment ESB-MANT-3005 Maintain water purification equipment ESB-MIIL-3009 Establish water distribution site ESB-UTIL-3010 Provide laundry services ESB-UTIL-3011 Provide shower services ESB-UTIL-3011 Provide shower services ESB-UTIL-3011 Provide incommand and control engineer forces ESB-EDF-7001 Train engineer operations ESB-EDF-7001 Provide utilities support ESB-BDF-7001 Provide utilities support ESB-BDF-7001 Provide deartinal support ESB-BDF-7001 Provide earth moving equipment (MHE) support ESB-BDF-7001 Provide earth moving equipment (MHE) support ESB-BDF-7001 Provide carne support ESB-BDF-7001 Provide carne support ESB-BDF-7001 Provide deartinal power ESB-BDF-7001 Provide carne support ESB-BDF-7001 Provide dea		
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ESB-FUEL-5002 Conduct tactical bulk fuel operations ESB-HROP-5001 Provide engineer equipment support ESB-HORZ-5001 Conduct horizontal construction ESB-HORZ-5002 Prepare site for construction ESB-HORZ-5001 Maintain engineer equipment ESB-HORZ-5001 Provide utilities support ESB-FUEL-4001 Construct bulk fuel site ESB-FUEL-4002 Conduct tactical bulk fuel operations ESB-HORZ-4001 Conduct MHE operations ESB-HORZ-4001 Conduct MTE operations ESB-HORZ-4001 Conduct horizontal construction ESB-HORZ-4002 Construct expedient drainage structure ESB-HUEL-3002 Provide earth moving equipment support ESB-FUEL-3001 Operate bulk fuel distribution site ESB-FUEL-3001 Operate bulk fuel distribution site ESB-FUEL-3001 Provide tactical bulk fuel storage ESB-HEOP-3001 Provide tactical bulk fuel storage ESB-HEOP-3002 Provide Material Handling Equipment (MHE) support ESB-HEOP-3003 Provide earth moving equipment support ESB-HEOP-3004 Maintain water purification equipment ESB-MANT-3004 Maintain water purification equipment ESB-MANT-3005 Maintain hygiene equipment ESB-UTIL-3007 Produce potable water ESB-UTIL-3009 Establish water distribution site ESB-UTIL-3010 Provide shower services ESB-UTIL-3011 Provide shower services ESB-UTIL-3012 Install plumbing in a structure MCT 4.4.4 CONDUCT TACTICAL ELECTRICAL SUPPLY ESB-ADMN-7001 Command and control engineer forces ESB-UTIL-3011 Provide engineer operations ESB-DEN-F-001 Train engineer operations ESB-DEN-6001 Command and control engineer forces ESB-EOPS-6001 Plan engineer operations ESB-DEN-6001 Conduct MHE operations ESB-DEN-F-0001 Plan engineer operations ESB-HEOP-5001 Provide dengineer equipment support ESB-HEOP-5001 Provide crane support ESB-HEOP-3002 Provide Material Handling Equipment (MHE) support ESB-HEOP-3003 Provide crane support ESB-HEOP-3001 Provide captheer operations ESB-HEOP-3002 Provide death moving equipment support ESB-HEOP-3003 Provide carth moving equipment support ESB-HEOP-3003 Provide carth moving equipment support	ESB-PLAN-6001	Plan engineer operations
ESB-HEOP-5001 Provide engineer equipment support ESB-HORZ-5002 Prepare site for construction ESB-HORZ-5001 Maintain engineer equipment ESB-HORZ-5001 Provide utilities support ESB-TUTIL-5001 Provide utilities support ESB-FUEL-4001 Construct bulk fuel site ESB-FUEL-4001 Conduct MEE operations ESB-HORZ-4001 Conduct MHE operations ESB-HORZ-4001 Conduct MHE operations ESB-HORZ-4001 Conduct MIT operations ESB-HORZ-4002 Construct expedient drainage structure ESB-HORZ-4002 Provide earth moving equipment support ESB-HORZ-3001 Operate bulk fuel distribution site ESB-FUEL-3001 Operate bulk fuel storage ESB-HEOP-3002 Provide crane support ESB-HEOP-3003 Provide act moving equipment (MHE) support ESB-HEOP-3003 Provide act main gequipment support ESB-HORZ-3001 Conduct dust abatement ESB-HORZ-3001 Conduct dust abatement ESB-MANT-3004 Maintain water purification equipment ESB-UTIL-3007 Produce potable water ESB-UTIL-3008 Store potable water ESB-UTIL-3009 Establish water distribution site ESB-UTIL-3011 Provide laundry services ESB-UTIL-3012 Install plumbing in a structure MCT 4.4.4 CONDUCT TACTICAL ELECTRICAL SUPPLY MCT BESB-ADNT-7001 Command and control engineer forces ESB-EDPS-7001 Train engineer operations ESB-DPS-6001 Train engineer operations ESB-DPS-6001 Train engineer operations ESB-DPS-6001 Provide engineer equipment support ESB-PLAN-6001 Plan engineer operations ESB-PLAN-6001 Plan engineer operations ESB-PLAN-6001 Provide engineer equipment support ESB-BHEOP-5001 Provide datctical electrical power ESB-HEOP-3002 Provide Material Handling Equipment (MHE) support ESB-HEOP-3003 Provide carth moving equipment support ESB-HEOP-3001 Provide carth moving equipment support	ESB-FUEL-5001	
ESB-HORZ-5001 Conduct horizontal construction ESB-HORZ-5002 Prepare site for construction ESB-HORZ-5002 Prepare site for construction ESB-HORZ-5001 Maintain engineer equipment ESB-UTIL-5001 Provide utilities support ESB-FUEL-4001 Conduct Dulk fuel site ESB-HECP-4001 Conduct MHE operations ESB-HORZ-4001 Conduct MHE operations ESB-HORZ-4002 Construct expedient drainage structure ESB-HECP-3003 Provide earth moving equipment support ESB-HIECP-3001 Provide potable water ESB-FUEL-3001 Operate bulk fuel distribution site ESB-FUEL-3001 Provide tactical bulk fuel storage ESB-HECP-3001 Provide crane support ESB-HECP-3002 Provide daterial Handling Equipment (MHE) support ESB-HECP-3003 Provide earth moving equipment support ESB-HECP-3001 Conduct dust abatement ESB-MANT-3004 Maintain water purification equipment ESB-MANT-3005 Maintain hygiene equipment ESB-UTIL-3007 Produce potable water ESB-UTIL-3008 Store potable water ESB-UTIL-3010 Provide shower services ESB-UTIL-3011 Provide shower services ESB-UTIL-3012 Install plumbing in a structure MCT 4.4.4 CONDUCT TACTICAL ELECTRICAL SUPPLY ESB-ADN-7001 Command and control engineer forces ESB-EDFS-6001 Train engineer forces ESB-EDFS-6001 Train engineer operations ESB-B-DFS-6001 Provide utilities support ESB-UTIL-4001 Provide in engineer equipment support ESB-B-DFS-6001 Provide in engineer equipment support ESB-B-B-HEOP-3001 Provide datctical electrical power ESB-B-B-B-F-5001 Provide and and control engineer support ESB-B-B-B-B-F-5001 Provide datctical electrical power ESB-B-B-B-B-F-5001 Provide carth moving equipment support ESB-B-B-B-B-F-5001 Provide carth moving equipment support	ESB-FUEL-5002	Conduct tactical bulk fuel operations
ESB-HORZ-5002 Prepare site for construction ESB-MANT-5001 Maintain engineer equipment ESB-UTL-5001 Provide utilities support ESB-FUEL-4001 Construct bulk fuel site ESB-HECP-4001 Conduct MHE operations ESB-HORZ-4001 Conduct MrE operations ESB-HORZ-4001 Conduct horizontal construction ESB-HORZ-4002 Construct expedient drainage structure ESB-HORZ-4002 Provide earth moving equipment support ESB-UTL-4002 Provide potable water ESB-FUEL-3001 Operate bulk fuel distribution site ESB-FUEL-3002 Provide tactical bulk fuel storage ESB-HEOP-3001 Provide crane support ESB-HEOP-3002 Provide daterial Handling Equipment (MHE) support ESB-HEOP-3003 Provide earth moving equipment support ESB-HORZ-3001 Conduct dust abatement ESB-MANT-3005 Maintain water purification equipment ESB-MANT-3005 Maintain hygiene equipment ESB-UTL-3009 Establish water distribution site ESB-UTIL-3009 Establish water distribution site ESB-UTIL-3010 Provide laundry services ESB-UTIL-3011 Provide shower services ESB-UTIL-3011 Provide shower services ESB-UTIL-3012 Install plumbing in a structure MCT 4.4.4 CONDUCT TACTICAL ELECTRICAL SUPPLY ESB-BADN-7001 Command and control engineer forces ESB-EDPS-7001 Train engineer forces ESB-EDPS-6001 Train engineer operations ESB-B-DAN-6001 Command and control engineer support ESB-PLAN-6001 Plan engineer operations ESB-B-DFS-6001 Train engineer operations ESB-PLAN-6001 Plan engineer operations ESB-B-PLAN-6001 Plan engineer operations ESB-B-DTIL-5001 Provide engineer equipment support ESB-B-B-F-F-6001 Provide engineer equipment support ESB-HEOP-3001 Provide care support ESB-HEOP-3003 Provide care support ESB-HEOP-3001 Provide care support ESB-HEOP-3003 Provide care support ESB-HEOP-3003 Provide care support ESB-HEOP-3003 Provide care support ESB-HEOP-3003 Maintain tactical power distribution system(s)	ESB-HEOP-5001	Provide engineer equipment support
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ESB-HEOP-3003 Provide earth moving equipment support ESB-UTIL-4002 Provide potable water ESB-FUEL-3001 Operate bulk fuel distribution site ESB-FUEL-3002 Provide tactical bulk fuel storage ESB-HEOP-3001 Provide crane support ESB-HEOP-3002 Provide Material Handling Equipment (MHE) support ESB-HEOP-3003 Provide earth moving equipment support ESB-HEOP-3001 Conduct dust abatement ESB-MANT-3004 Maintain water purification equipment ESB-MANT-3005 Maintain hygiene equipment ESB-UTIL-3007 Produce potable water ESB-UTIL-3008 Store potable water ESB-UTIL-3010 Provide laundry services ESB-UTIL-3010 Provide laundry services ESB-UTIL-3011 Provide shower services ESB-UTIL-3012 Install plumbing in a structure MCT 4.4.4 CONDUCT TACTICAL ELECTRICAL SUPPLY ESB-ADMN-7001 Command and control engineer forces ESB-EDPS-7001 Train engineer forces ESB-EDPS-6001 Train engineer forces ESB-EDPS-6001 Train engineer forces ESB-EDPS-6002 Conduct engineer operations ESB-EDPS-6001 Provide utilities support ESB-HEOP-5001 Provide utilities support ESB-HEOP-5001 Provide tactical electrical power ESB-UTIL-4001 Provide crane support ESB-HEOP-3001 Provide crane support ESB-HEOP-3001 Provide crane support ESB-HEOP-3001 Provide Material Handling Equipment (MHE) support ESB-HEOP-3001 Provide crane support ESB-HEOP-3003 Provide Material Handling Equipment support ESB-HEOP-3003 Provide material power distribution system(s)	ESB-HORZ-4002	Construct expedient drainage structure
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ESB-HEOP-3001 Provide crane support ESB-HEOP-3002 Provide Material Handling Equipment (MHE) support ESB-HEOP-3003 Provide earth moving equipment support ESB-HORZ-3001 Conduct dust abatement ESB-MANT-3004 Maintain water purification equipment ESB-MANT-3005 Maintain hygiene equipment ESB-UTIL-3007 Produce potable water ESB-UTIL-3008 Store potable water ESB-UTIL-3010 Provide laundry services ESB-UTIL-3011 Provide shower services ESB-UTIL-3012 Install plumbing in a structure MCT 4.44 CONDUCT TACTICAL ELECTRICAL SUPPLY ESB-ADMN-7001 Command and control engineer forces ESB-EOPS-7001 Train engineer operations ESB-EOPS-6001 Train engineer forces ESB-EOPS-6001 Train engineer forces ESB-EOPS-6001 Train engineer operations ESB-EOPS-6001 Provide engineer operations ESB-EOPS-6001 Provide engineer operations ESB-EOPS-6001 Provide engineer operations ESB-EDF-5001 Provide engineer operations ESB-UTIL-5001 Provide utilities support ESB-UTIL-5001 Provide utilities support ESB-UTIL-4001 Provide tactical electrical power ESB-UTIL-4001 Provide crane support ESB-HEOP-3001 Provide crane support ESB-HEOP-3003 Provide earth moving equipment support ESB-HEOP-3003 Maintain tactical power distribution system(s) ESB-MANT-3006 Maintain refrigeration system(s)	ESB-FUEL-3002	Provide tactical bulk fuel storage
ESB-HEOP-3002 Provide Material Handling Equipment (MHE) support ESB-HEOP-3003 Provide earth moving equipment support ESB-HEOP-3001 Conduct dust abatement ESB-MANT-3004 Maintain water purification equipment ESB-MANT-3005 Maintain hygiene equipment ESB-MANT-3007 Produce potable water ESB-UTIL-3007 Produce potable water ESB-UTIL-3009 Establish water distribution site ESB-UTIL-3010 Provide laundry services ESB-UTIL-3011 Provide shower services ESB-UTIL-3012 Install plumbing in a structure MCT 4.4.4 CONDUCT TACTICAL ELECTRICAL SUPPLY ESB-ADMN-7001 Command and control engineer forces ESB-EOPS-7001 Train engineer forces ESB-EADNN-6001 Plan engineer operations ESB-EADNN-6001 Command and control engineer forces ESB-EOPS-6001 Train engineer forces ESB-EOPS-6002 Conduct engineer operations ESB-HEOP-5001 Provide engineer operations ESB-HEOP-5001 Provide utilities support ESB-UTIL-5001 Provide utilities support ESB-UTIL-4001 Provide tactical electrical power ESB-UTIL-4001 Provide crane support ESB-HEOP-3001 Provide earth moving equipment support ESB-HEOP-3002 Provide Material Handling Equipment (MHE) support ESB-HEOP-3003 Provide earth moving equipment support ESB-MANT-3006 Maintain tactical power distribution system(s)	ESB-HEOP-3001	-
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ESB-PLAN-7001	Plan engineer operations
ESB-ADMN-6001	Command and control engineer forces
ESB-EOPS-6001	Train engineer forces
ESB-EOPS-6002	Conduct engineer operations
ESB-PLAN-6001	Plan engineer operations
ESB-SURV-6001	Conduct survivability operations
ESB-DEMO-5001	Conduct demolition operations
ESB-HEOP-5001	Provide engineer equipment support
ESB-HORZ-5001	Conduct horizontal construction
ESB-HORZ-5002	Prepare site for construction
ESB-MANT-5001	Maintain engineer equipment
ESB-SURV-5001	Construct survivability positions
ESB-SURV-5002	Harden existing structure
ESB-SURV-5003	Construct field fortifications
ESB-VERT-5001	Conduct vertical construction
ESB-HEOP-4001	Conduct MHE operations
ESB-MANT-4001	Maintain engineer equipment
ESB-HORZ-4001	Conduct horizontal construction
ESB-HORZ-4002	Construct expedient drainage structure
ESB-SURV-4001	Harden existing structure
ESB-SURV-4002	Construct field fortifications
ESB-SURV-4003	Construct Vehicle Control Point (VCP)
ESB-SURV-4004	Construct Entry Access Point (EAP)
ESB-SURV-4005	Construct earth filled barrier/structure
ESB-SURV-4006	Employ demolitions in support of survivability operations
ESB-HEOP-3002	Provide Material Handling Equipment (MHE) support
ESB-HEOP-3003	Provide earth moving equipment support
ESB-MANT-3001	Maintain engineer equipment
ESB-MANT-3002	Employ maintenance team
ESB-SURV-3001	Construct trenches
ESB-SURV-3002	Construct shelter/bunkers
ESB-SURV-3003	Construct vehicle survivability position/revetment
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CHAPTER 3

CAB COLLECTIVE EVENTS

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CHAPTER 3

CAB COLLECTIVE EVENTS

- **3000. PURPOSE.** Chapter 3 contains collective training events for the Combat Assault Battalion (CAB).
- **3001. EVENT CODING.** Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX. This chapter utilizes the following methodology:
- a. Field one. This field represents the community. This chapter contains the following community codes:

Code	Descrip	ption	
CAB	Combat	Assault	Battalion

b. Field two. This field represents the functional/duty area. This chapter contains the following functional/duty areas:

Code	Description
ADMN	Administration
CMOB	Counter-mobility
DEMO	Demolitions
EOPS	Engineer Operations
HEOP	Heavy Equipment Operations
HORZ	Horizontal Construction
MANT	Maintenance
MOBL	Mobility
PINF	Provisional Infantry
PLAN	Planning
RECN	Engineer Reconnaissance
SURV	Survivability
UTIL	Utilities
VERT	Vertical Construction

c. Field three. This field provides the level at which the event is accomplished and numerical sequencing of events. This chapter contains the following event levels:

Code	Description
7000	Battalion Level
6000	Company Level
5000	Platoon Level
4000	Squad Level
3000	Team Level

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CAB-EOPS-6001	YES	Train engineer forces	3-10
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CAB-MOBL-6001	YES	Conduct mobility operations	3-12
CAB-PINF-6001	YES	Provide provisional infantry	3-13
CAB-PLAN-6001	YES	Plan engineer operations	3-14
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CAB-RECN-5001	YES	Conduct engineer reconnaissance	3-30
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222 2010 1000	110	survivability operations	
CAB-UTIL-4001	YES	Provide tactical electrical power	3-75
CAB-UTIL-4002	NO	Provide potable water	3-76
CAB-UTIL-4003	NO	Provide tactical hygiene support	3-77
CAB-VERT-4001	NO	Conduct limited vertical construction	3-78
CAB-VERT-4002	NO	Construct wood frame structure	3-79
CAB-VERT-4003	NO	Construct timber structure	3-80
CAB-VERT-4004	NO	Provide limited repair of existing	3-81
		structures	
CAB-VERT-4005	NO	Rig expedient lifting devices	3-82
		3000- LEVEL EVENTS	·!
CAB-CMOB-3001	YES	Construct field expedient obstacles	3-83
CAB-CMOB-3002	YES	Build non-explosive obstacles	3-85
CAB-CMOB-3003	YES	Employ explosive obstacles	3-86
CAB-DEMO-3001	YES	Destroy captured arms and ammunition with	3-87
		demolitions	
CAB-DEMO-3002	YES	Destroy bridge with demolitions	3-89
CAB-DEMO-3003	YES	Destroy tunnel with demolitions	3-90
CAB-DEMO-3004	YES	Destroy building with demolitions	3-92
CAB-HEOP-3001	YES	Provide limited Material Handling	3-93
		Equipment (MHE) support	
CAB-HEOP-3002	YES	Provide limited earth moving equipment	3-94
G10 10 1111		support	2 25
CAB-MANT-3001	YES	Maintain engineer equipment	3-95
CAB-MANT-3002	YES	Maintain tactical power distribution	3-96
CAD MANTE 2002	370	system	2 07
CAB-MANT-3003	NO	Maintain water purification equipment	3-97
CAB-MANT-3004	NO	Maintain hygiene equipment	3-98
CAB-MOBL-3001	YES	Engage targets with MK153 SMAW	3-99
CAB-MOBL-3002	YES	Conduct an urban breach	3-100
CAB-MOBL-3003	YES	Create a lane through an obstacle	3-102
CAB-MOBL-3004	YES	Proof a lane through an obstacle	3-103
CAB-MOBL-3005	YES	Mark a lane through an obstacle	3-105
CAB-MOBL-3006	YES	Remotely detect explosive hazards	3-106

CAB-MOBL-3007	YES	Remotely reduce explosive hazards	3-107
CAB-MOBL-3008	YES	Employ a medium machinegun team	3-108
CAB-MOBL-3009	YES	Employ a heavy machinegun team	3-109
CAB-MOBL-3010	YES	Fell standing timber	3-110
CAB-MOBL-3011	NO	Operate small craft	3-111
CAB-MOBL-3012	YES	Conduct limited route clearance operations	3-112
CAB-MOBL-3013	YES	Conduct area clearance operations	3-113
CAB-RECN-3001	YES	Conduct gap reconnaissance	3-115
CAB-RECN-3002	YES	Conduct ferry reconnaissance	3-116
CAB-RECN-3003	YES	Conduct cache sweep	3-117
CAB-RECN-3004	YES	Conduct tunnel/cave reconnaissance	3-118
CAB-RECN-3005	YES	Survey site for construction	3-119
CAB-RECN-3006	YES	Conduct obstacle reconnaissance	3-120
CAB-RECN-3007	YES	Conduct bridge reconnaissance	3-121
CAB-RECN-3008	YES	Conduct road reconnaissance	3-122
CAB-SURV-3001	YES	Construct trenches	3-123
CAB-SURV-3002	YES	Construct shelters/bunkers	3-124
CAB-SURV-3003	YES	Construct vehicle survivability	3-125
		position/revetment	
CAB-SURV-3004	YES	Construct crew served weapons position	3-126
CAB-SURV-3005	YES	Construct overhead cover	3-128
CAB-SURV-3006	YES	Construct individual fighting position	3-129
CAB-SURV-3007	YES	Construct triggering screen	3-130
CAB-SURV-3008	YES	Construct vehicle fighting position	3-131
CAB-UTIL-3001	YES	Establish tactical power distribution	3-132
		system	
CAB-UTIL-3002	NO	Provide floodlight support	3-133
CAB-UTIL-3003	YES	Establish power generation site(s)	3-134
CAB-UTIL-3004	NO	Wire a structure for electricity	3-134
CAB-UTIL-3005	NO	Produce potable water	3-136
CAB-UTIL-3006	NO	Store potable water	3-137
CAB-UTIL-3007	NO	Establish water distribution site	3-137
CAB-UTIL-3008	NO	Provide laundry services	3-138
CAB-UTIL-3009	NO	Provide shower services	3-139
CAB-UTIL-3010	NO	Install plumbing in a structure	3-140

3003. 7000 LEVEL EVENTS

CAB-ADMN-7001: Command and control engineer forces

SUPPORTED MCT(S):

MCT	1.1.2	MCT	1.12.1	MCT	1.4.1
MCT	1.4.2	MCT	2.2.2	MCT	4.4.4

MCT 6.1.4

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 6 months

<u>DESCRIPTION</u>: Command and control engineer forces to exercise authority and direction over assigned forces, advise the Battalion Commander on the use of engineer forces, and coordinate operations with adjacent engineers.

CONDITION: Given an order, commander's intent and references.

STANDARD: To exercise authority and direction over assigned forces, advise the commander on the use of engineer forces and coordinate operations with adjacent engineers in the accomplishment of the mission in accordance with MCWP 3-17 Engineer Operations.

EVENT COMPONENTS:

- 1. Establish COC.
- 2. Establish communications with higher, adjacent, supported and subordinate units.
- 3. Command assigned units.
- 4. Maintain the engineer COP.
- 5. Direct/coordinate current engineer operations.
- 6. Initiate appropriate actions.
- 7. Track CCIRs.
- 8. Maintain status of available engineer resources.
- 9. Integrate engineer reconnaissance products into intelligence efforts.
- 10. Make recommendations to the commander.

CHAINED EVENTS:

CAB-ADMN-6001	CAB-CMOB-6001	CAB-EOPS-6001
CAB-EOPS-6002	CAB-MOBL-6001	CAB-PINF-6001
CAB-PLAN-6001	CAB-SURV-6001	ESB-PINF-6001

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17 Engineering Operations
- 3. MCWP 3-43 Command and Control
- 4. MCWP 5-1 Marine Corps Planning Process (MCPP)

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

EQUIPMENT: C4I assets.

CAB-EOPS-7001: Train engineer forces

SUPPORTED MCT(S):

MCT 1.1.2 MCT 1.12.1 MCT 1.4.1 MCT 1.4.2 MCT 4.4.4 MCT 6.1.4

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 6 months

DESCRIPTION: Train engineer forces in order to sustain proficiency in mobility, countermobility, survivability, tactical electrical power, engineering reconnaissance operations and amphibious operations.

CONDITION: Given an engineer unit, approved Mission Essential Task List

(METL), commander's training guidance, training plans, training schedules, resources and trainers.

STANDARD: To ensure that all requirements identified in performance steps (individual performance tasks) or event components (collective tasks) are addressed in sequence so all training evolutions achieve desired results.

EVENT COMPONENTS:

- 1. Conduct problem framing.
- 2. Identify collective training standards.
- 3. Conduct training assessment.
- 4. Determine training strategy.
- 5. Develop training guidance.
- 6. Develop a long range training plan.
- 7. Develop a mid-range training plan.
- 8. Develop a short-range training plan.
- 9. Develop weekly training schedules.
- 10. Develop lesson materials.
- 11. Develop training materials.
- 12. Conduct Operational Risk Assessment (ORA).
- 13. Conduct training.
- 14. Evaluate training.
- 15. Evaluate unit training plans.

CHAINED EVENTS:

CAB-ADMN-6001	CAB-CMOB-6001	CAB-EOPS-6001
CAB-EOPS-6002	CAB-MOBL-6001	CAB-PINF-6001
CAB-PLAN-6001	CAB-SURV-6001	ESB-PINF-6001

REFERENCES:

- 1. MCO 1553.3_ Unit Training Management (UTM) Program
- 2. MCRP 3-0A Unit Training Management Guide
- 3. MCRP 3-0B How to Conduct Training
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 5-1 Marine Corps Planning Process (MCPP)

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

<u>CAB-PLAN-7001</u>: Plan engineer operations

SUPPORTED MCT(S):

MCT 1.1.2 MCT 1.12.1 MCT 1.4.1 MCT 1.4.2 MCT 4.4.4 MCT 6.1.4

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 6 months

DESCRIPTION: Plan engineer operations to optimize the use of engineer personnel and equipment in accordance with mission analysis, commander's

intent and concept of operations.

CONDITION: Given higher commander's initial guidance, battle space area evaluation, and a warning or operations order.

STANDARD: To identify the best use of engineer personnel and equipment in accordance with problem framing, commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Conduct problem framing.
- 2. Develop courses of action.
- 3. War game courses of action.
- 4. Compare courses of action.
- 5. Brief commanders.
- 6. Develop orders.
- 7. Transition to produce operations plan or order.
- 8. Develop branches and sequels, if applicable.

CHAINED EVENTS: CAB-PLAN-6001

RELATED EVENTS:

1302-ADMN-1002	1302-CMOB-1001	1302-CMOB-1002
1302-CMOB-1003	1302-DEMO-1001	1302-DEMO-1004
1302-EOPS-1005	1302-FUEL-1001	1302-HORZ-1001
1302-HORZ-1002	1302-MOBL-1001	1302-MOBL-1002
1302-MOBL-1003	1302-MOBL-1005	1302-MOBL-1007

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.4 Engineer Reconnaissance
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-17.7 General Engineering
- 7. MCWP 3-17.8 Combined Arms Mobility Operations
- 8. MCWP 5-1 Marine Corps Planning Process (MCPP)

3004. 6000 LEVEL EVENTS

CAB-ADMN-6001: Command and control engineer forces

SUPPORTED MCT(S):

MCT	1.1.2	\mathtt{MCT}	1.12.1	MCT	1.4.1
MCT	1.4.2	\mathtt{MCT}	2.2.2	MCT	4.4.4
MCT	6.1.4				

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Command and control engineer forces to exercise authority and direction over assigned forces, advise the Battalion Commander on the use of engineer forces, and coordinate operations with adjacent engineers.

CONDITION: Given an order and commander's intent.

STANDARD: To exercise authority and direction over assigned forces, advise the commander on the use of engineer forces and coordinate operations with adjacent engineers in accordance with concept of operations.

EVENT COMPONENTS:

- 1. Establish COC.
- 2. Establish communications with higher, adjacent, supported and subordinate units.
- 3. Command assigned units.
- 4. Maintain the engineer COP.
- 5. Direct/coordinate current engineer operations.
- 6. Initiate appropriate actions.
- 7. Track CCIRs.
- 8. Maintain status of available engineer resources.
- 9. Integrate engineer reconnaissance products into intelligence efforts.
- 10. Make recommendations to the commander.

CHAINED EVENTS:

CAB-CMOB-5001	CAB-DEMO-5001	CAB-HEOP-5001
CAB-HORZ-5001	CAB-HORZ-5002	CAB-MOBL-5001
CAB-MOBL-5002	CAB-MOBL-5003	CAB-MOBL-5004
CAB-PINF-5001	CAB-RECN-5001	CAB-RECN-5002

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17 Engineering Operations
- 3. MCWP 3-43 Command and Control
- 4. MCWP 5-1 Marine Corps Planning Process (MCPP)

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

MATERIAL: C4ISR assets.

<u>CAB-CMOB-6001</u>: Conduct countermobility operations

SUPPORTED MCT(S): MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Conduct countermobility operations to augment natural terrain with obstacle systems that disrupt the enemy's ability to maneuver its forces. With its movement disrupted, turned, fixed or blocked, the enemy is vulnerable.

CONDITION: Given a mission, commander's intent, available resources, location of adjacent and friendly forces, estimated location and most recent

activities of enemy, weather conditions, defined area of operations, routes, rules of engagement (ROE), supporting arms plan and references.

STANDARD: To turn, block, fix, or disrupt enemy forces in accordance with the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Conduct countermobility planning.
- 2. Integrate countermobility plan into concept of operations.
- 3. Participate in supported unit planning.
- 4. Task organize.
- 5. Complete engineering portion to orders.
- 6. Issue orders.
- 7. Construct obstacles and barriers.
- 8. Maintain obstacles and barriers.
- 9. Submit reports, as required.

CHAINED EVENTS:

CAB-CMOB-5001 CAB-HEOP-5001

REFERENCES:

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 3. MCWP 3-17 Engineering Operations

<u>CAB-EOPS-6001</u>: Train engineer forces

SUPPORTED MCT(S):

MCT 1.1.2 MCT 1.12.1 MCT 1.4.1 MCT 1.4.2 MCT 4.4.4 MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Train engineer forces in order to sustain proficiency in mobility, countermobility, survivability, tactical electrical power, engineering reconnaissance operations and amphibious operations.

<u>CONDITION</u>: Given an engineer unit, approved Mission Essential Task List (METL), commander's training guidance, training plans, training schedules, resources and trainers.

<u>STANDARD</u>: To ensure that all requirements identified in performance steps (individual performance tasks) or event components (collective tasks) are addressed in sequence so all training evolutions achieve desired results.

- 1. Conduct problem framing.
- 2. Identify collective training standards.
- 3. Conduct training assessment.
- 4. Determine training strategy.
- 5. Develop training guidance.
- 6. Develop a long range training plan.
- 7. Develop a mid-range training plan.

- 8. Develop a short-range training plan.
- 9. Develop weekly training schedules.
- 10. Develop lesson materials.
- 11. Develop training materials.
- 12. Conduct Operational Risk Assessment (ORA).
- 13. Conduct training.
- 14. Evaluate training.
- 15. Evaluate unit training plans.

CAB-HORZ-5001	CAB-HORZ-5002	CAB-MOBL-5001
CAB-MOBL-5002	CAB-MOBL-5003	CAB-MOBL-5004
CAB-PINF-5001	CAB-RECN-5001	CAB-RECN-5002
CAB-SURV-5001	CAB-UTIL-5001	CAB-VERT-5001
CAB-VERT-5001	CLB-SURV-5001	ESB-SURV-5001

REFERENCES:

- 1. MCRP 3-0A Unit Training Management Guide
- 2. MCRP 3-0B How to Conduct Training
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 5. NAVMC 3500.12 Engineer and Utilities T&R Manual

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

CAB-EOPS-6002: Conduct limited general engineering operations

SUPPORTED MCT(S):

MCT	1.12.1	MCT 1.4.1	MCT 1.4.2
MCT	2.2.2	MCT 4.4.4	MCT 6.1.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Conduct limited general engineering operations to include but are not limited to expeditionary facilities and helicopter landing zones.

<u>CONDITION</u>: Given a mission, commander's intent, available resources, location of adjacent and friendly forces, estimated location and most recent activities of enemy, weather conditions, defined area of operations, routes, rules of engagement (ROE), supporting arms plan and security element.

STANDARD: To provide general engineering within capabilities in accordance with commander's intent, concept of operations and supported unit requirements.

- 1. Provide engineer reconnaissance.
- 2. Conduct site survey.

- 3. Construct and maintain essential base camp requirements.
- 4. Provide limited tactical mobile electric power.
- 5. Provide limited vertical and horizontal construction.
- 6. Construct expedient helicopter landing zones (HLZ).
- 7. Provide limited material handling equipment support.

CAB-HEOP-5001	CAB-HORZ-5001	CAB-HORZ-5002
CAB-MANT-5001	CAB-MOBL-5003	CAB-RECN-5001
CAB-UTIL-5001	CAB-VERT-5001	

REFERENCES:

- 1. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 2. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17.7D Concrete and Masonry
- 5. MCRP 3-17.7I Earthmoving Operations
- 6. MCRP 3-17.7K Theater of Operations Electrical Systems
- 7. MCRP 3-17.7M Construction Estimating
- 8. MCRP 3-17.7N Base Camps
- 9. MCRP 3-17A Engineering Field Data
- 10. MCRP 3-17B Engineer Forms and Reports
- 11. MCWP 3-17 Engineering Operations
- 12. MCWP 3-17.4 Engineer Reconnaissance
- 13. MCWP 3-17.7 General Engineering

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces Facility Code 17931 Medium/Heavy Equipment Training Area

EQUIPMENT: Engineer Earthmoving equipment, Engineer Material Handling equipment, Utilities equipment, Refrigeration equipment, Combat Engineer tools & kits

<u>CAB-MOBL-6001</u>: Conduct mobility operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct mobility operations to enable the force commander to maneuver units into advantageous positions. It includes but is not limited to breaching, mounted route clearance, combat roads and trails, and assault bridging.

<u>CONDITION</u>: Given a mission, commander's intent, available resources, location of adjacent and friendly forces, estimated location and most recent activities of enemy, weather conditions, defined area of operations, routes,

rules of engagement (ROE), supporting arms plan and references.

STANDARD: To provide mobility for maneuver forces in accordance with the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Conduct mobility planning.
- 2. Conduct engineer reconnaissance.
- 3. Integrate mobility plan into the concept of operations.
- 4. Participate in supported unit planning.
- 5. Task organize.
- 6. Complete the engineering portion of the orders.
- 7. Issue orders.
- 8. Clear mobility obstructions.
- 9. Construct and maintain mobility corridors for maneuver forces.
- 10. Submit reports, as required.

CHAINED EVENTS:

CAB-DEMO-5001	CAB-HEOP-5001	CAB-MOBL-5001
CAB-MOBL-5002	CAB-MOBL-5003	CAB-MOBL-5004
CAB-RECN-5001		

REFERENCES:

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7L Explosives and Demolitions
- 3. MCRP 3-17A Engineering Field Data
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance
- 7. MCWP 3-17.8 Combined Arms Mobility Operations
- 8. TM 11275-15/3_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 9. Unit SOP Unit's Standing Operating Procedures

CAB-PINF-6001: Provide provisional infantry

SUPPORTED MCT(S): MCT 1.1.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Provide provisional infantry to participate in offensive operations such as attacks, raids, and movement to contact. Defensive operations that include withdrawal, patrolling, check point ops, convoy ops, and employment of organic weapons. Additional responsibilities may include operations other than war (civil disturbance, TRAP, cordon and search) and MOUT (attack, defend, patrol, clear a building, vehicle check point).

CONDITION: Given a requirement, commander's intent and references.

<u>STANDARD</u>: To ensure a deployable detachment is capable of providing task organized forces to a supported unit in accordance with the concept of operations.

EVENT COMPONENTS:

- 1. Conduct planning.
- 2. Task organize.
- 3. Issue orders.
- 4. Conduct inspections, rehearsals, and preparations.
- 5. Employ appropriate formations and tactics.
- 6. Conduct final preparations.
- 7. Utilize, coordinate and deconflict fires.
- 8. Employ supporting arms.
- 9. Establish redundant communications.
- 10. Treat and evacuate casualties.
- 11. Process detainees.
- 12. Send and receive required reports.

CHAINED EVENTS: CAB-PINF-5001

REFERENCES:

- 1. FM 21-75 Combat Skills of the Soldier
- 2. MCDP 1 Warfighting
- 3. MCWP 3-1 Ground Combat Operations
- 4. MCWP 5-1 Marine Corps Planning Process (MCPP)

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

Facility Code 17581 Machine Gun Field Fire Range

Facility Code 17730 Fire and Movement Range

CAB-PLAN-6001: Plan engineer operations

SUPPORTED MCT(S):

MCT 1.12.1 MCT 1.4.1 MCT 1.4.2 MCT 2.2.2 MCT 4.4.4 MCT 6.1.4

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 6 months

<u>DESCRIPTION</u>: Plan engineer operations to optimize the use of engineer personnel and equipment in accordance with problem framing, commander's intent and concept of operations.

CONDITION: Given higher commander's initial guidance, battle-space area evaluation, and a warning order or operations order.

STANDARD: To identify the best use of engineer personnel and equipment in accordance with problem framing, commander's intent and concept of operations.

- 1. Conduct problem framing.
- 2. Develop courses of action.

- 3. War game courses of action.
- 4. Compare courses of action.
- 5. Conduct decision brief.
- 6. Develop orders.
- 7. Transition to produce operations plan or order.
- 8. Develop branches and sequels, if applicable.

RELATED EVENTS:

1302-ADMN-1002	1302-CMOB-1001	1302-CMOB-1002
1302-CMOB-1003	1302-DEMO-1001	1302-DEMO-1004
1302-EOPS-1005	1302-FUEL-1001	1302-HORZ-1001
1302-HORZ-1002	1302-MOBL-1001	1302-MOBL-1002
1302-MOBL-1003	1302-MOBL-1005	1302-MOBL-1007

REFERENCES:

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. JP 3-34 Joint Engineer Operations
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.4 Engineer Reconnaissance
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-17.7 General Engineering
- 7. MCWP 3-17.8 Combined Arms Mobility Operations
- 8. MCWP 5-1 Marine Corps Planning Process (MCPP)

<u>CAB-SURV-6001</u>: Conduct survivability operations

SUPPORTED MCT(S): None

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Conduct survivability operations to provide survivability planning and positions for supported units. (Such as construction of field fortifications, hardening of command, communication and combat train locations, weapon system firing positions, and infantry fighting combat positions).

CONDITION: Given a mission, commander's intent, available resources, location of adjacent and friendly forces, estimated location and most recent activities of enemy, weather conditions, defined area of operations, routes, rules of engagement (ROE), supporting arms plan and references.

STANDARD: To provide survivability planning and positions for supported units in accordance with the commander's intent and concept of operations.

- 1. Perform vulnerability assessment.
- 2. Integrate survivability plan into the concept of operations.
- 3. Conduct survivability planning.
- 4. Task organize.
- 5. Complete the engineering portion of the orders.
- 6. Issue orders.
- 7. Construct survivability positions.
- 8. Provide SME input to AF/FP plan, as required.

- 9. Maintain survivability positions, as required.
- 10. Maintain oversight of survivability construction efforts.
- 11. Receive and submit reports, as required.

CAB-CMOB-5001 CAB-HEOP-5001 CAB-HORZ-5001 CAB-HORZ-5001 CAB-SURV-5001 CAB-VERT-5001 CLB-SURV-5001 ESB-SURV-5001

REFERENCES:

- 1. JP 3-34 Joint Engineer Operations
- 2. MCRP 3-17A Engineering Field Data
- 3. MCRP 3-17B Engineer Forms and Reports
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 5-1 Marine Corps Planning Process (MCPP)

3005. 5000-LEVEL EVENTS

CAB-CMOB-5001: Create obstacle groups

SUPPORTED MCT(S): MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Create obstacle groups of two or more obstacles grouped to provide a specific obstacle effect turn, block, fix, or disrupt the enemy.

CONDITION: Given a mission, commander's intent, location of adjacent friendly forces, estimated locations and most recent activities of enemy, weather conditions, defined area of operations, route, rules of engagement (ROE), supporting arms, an equipment density list and available personnel.

STANDARD: To turn, block, fix, or disrupt the enemy in accordance with the commander's intent and concept of operations.

- 1. Develop/review obstacle plan.
- 2. Analyze engagement areas, battle positions, and weapons location.
- 3. Determine possible obstacle locations and types.
- 4. Identify the commander's obstacle priorities.
- 5. Determine resources.
- 6. Determine actual work sequence.
- 7. Determine task organization required.
- 8. Determine coordination required.
- 9. Coordinate with supported unit for specific obstacle placement and observation.
- 10. Coordinate observation and reporting for decision/triggering point(s).
- 11. Reserve situational obstacles, as required.
- 12. Emplace explosive obstacle(s).
- 13. Create non-explosive obstacle(s).
- 14. Close lanes, as required.
- 15. Submit required reports.

CAB-CMOB-4001 CAB-CMOB-4002 CAB-CMOB-4003 CAB-HEOP-4001 CAB-VERT-4001 CAB-VERT-4005

REFERENCES:

- 1. JP 3-15 Barriers, Obstacles, and Mine Warfare for Joint Operations
- 2. JP 3-34 Joint Engineer Operations
- 3. MCRP 3-17A Engineering Field Data
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3-17.5 Combined Arms Countermobility Operations
- 7. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

Facility Code 17830 Light Demolition Range

Facility Code 17931 Medium/Heavy Equipment Training Area

EQUIPMENT: Engineer Material Handling Equipment, Combat engineer equipment and kits.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Type/quantities of ammunition, explosives and pyrotechnics are documented with the 4000 Level Events Chained to this event.

CAB-DEMO-5001: Conduct demolition operations

SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2 MCT 6.1.4

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 6 months

DESCRIPTION: Conduct demolition operations to produce the desired effect. These tasks may include placing explosives near heavy weapons, enemy munitions, destroying cave systems, facilities, equipment, and improving mobility in urban terrain and designated or reserve targets.

CONDITION: Given a tactical situation, an order, task organized equipment and personnel, specifications, and appropriate references.

STANDARD: To achieve desired effects in accordance with commander's intent and concept of operations.

EVENT COMPONENTS:

1. Receive demolition concept of operations.

- 2. Conduct engineer reconnaissance.
- 3. Destroy captured arms and ammunition, as required.
- 4. Employ demolitions in support of mobility operations, as required.
- 5. Employ demolitions in support of survivability position construction, as required.
- 6. Employ demolitions in support of counter-mobility operations, as required.
- 7. Submit required reports.

CAB-CMOB-4001	CAB-CMOB-4002	CAB-CMOB-4003
CAB-DEMO-3001	CAB-MOBL-4001	CAB-MOBL-4002
CAB-MOBL-4003	CAB-MOBL-4004	CAB-MOBL-4008
CAB-PINF-4001	CAB-RECN-4004	CAB-RECN-4005
CAB-SURV-4006		

RELATED EVENTS:

1302-DEMO-1001	1302-DEMO-1002	1302-DEMO-1003
1302-DEMO-1004	1371-DEMO-2001	1371-DEMO-2002

REFERENCES:

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. JP 3-15 Barriers, Obstacles, and Mine Warfare for Joint Operations
- 3. JP 3-34 Joint Engineer Operations
- 4. MCRP 3-17.7D Concrete and Masonry
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.2 MAGTF Explosive Ordnance Disposal
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.6 Survivability
- 11. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

EQUIPMENT: Combat engineer demolitions kit.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Type/quantities of ammunition, explosives and pyrotechnics are documented with the 4000- and 3000-Level Events Chained to this event.

CAB-HEOP-5001: Provide limited engineer equipment support

SUPPORTED MCT(S):

MCT 1.1.2 MCT 1.12.1 MCT 1.4.1 MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Provide limited engineer equipment support to the mission using

the required type(s) of engineer equipment and personnel.

CONDITION: Given a mission, a support plan, equipment availability, commander's intent, personnel and equipment, an area of operations or support, and references.

STANDARD: To provide required engineer support in accordance with unit SOPs, concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Review equipment support plan.
- 2. Analyze support requirements and location(s).
- 3. Determine resources.
- 4. Determine schedule of work.
- 5. Determine task organization.
- 6. Coordinate with supported unit (location, requirements, security, ground guides, etc.).
- 7. Coordinate logistics.
- 8. Manage engineer equipment operations.
- 9. Conduct earthmoving operations, as required.
- 10. Conduct material handling operations, as required.
- 11. Conduct horizontal construction, as required
- 12. Conduct maintenance, as required.
- 13. Recover engineer equipment, as required.
- 14. Submit required reports.

CHAINED EVENTS:

CAB-HEOP-4001	CAB-MANT-4001	CAB-UTIL-4001
RELATED EVENTS:		
1310-ADMN-2001	1310-ADMN-2002	1310-ADMN-2003
1310-ADMN-2004	1310-ADMN-2005	1310-ADMN-2006
1310-ADMN-2008	1310-ADMN-2009	1310-ADMN-2010
1310-HEOP-2001	1310-HORZ-2001	1310-HORZ-2002
1310-HORZ-2003	1310-MANT-2001	1310-MANT-2002
1341-ADMN-2001	1341-ADMN-2002	1341-ADMN-2003
1341-ADMN-2004	1341-ADMN-2005	1341-ADMN-2006
1341-ADMN-2007	1341-ADMN-2008	1349-ADMN-2001
1349-ADMN-2002	1349-ADMN-2003	1349-ADMN-2004
1349-ADMN-2005	1349-ADMN-2006	1349-ADMN-2008
1349-ADMN-2009	1349-ADMN-2010	1349-HEOP-2001
1349-HORZ-2001	1349-HORZ-2002	1349-HORZ-2003
1349-MANT-2001	1349-MANT-2002	

REFERENCES:

- 1. JP 3-34 Joint Engineer Operations
- 2. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 3. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 4. MCRP 3-17.7F Project Management
- 5. MCRP 3-17.7I Earthmoving Operations
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports

8. MCWP 3-17 Engineering Operations

SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer equipment, Motor Transport equipment, Utilities equipment.

UNITS/PERSONNEL: Engineer equipment maintainers, Utilities equipment
maintainers.

CAB-HORZ-5001: Conduct limited horizontal construction

SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2 MCT 6.1.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct limited horizontal construction in order to shape the terrain to meet the operational requirements of the GCE and includes expedient road construction and/or maintenance; expeditionary HLZs; site preparation for bed down facilities; and ordnance storage facilities.

<u>CONDITION</u>: Given a mission, commander's intent, tactical situation, task organized equipment and personnel, design specifications, construction materials and references.

<u>STANDARD</u>: To build the assigned project to meet or exceed the requirements listed in the design specifications and the commander's intent.

EVENT COMPONENTS:

- 1. Plan horizontal construction.
- 2. Conduct engineer reconnaissance.
- 3. Conduct survey, as required.
- 4. Coordinate horizontal construction.
- 5. Conduct site preparation.
- 6. Conduct soil stabilization/dust abatement, as required.
- 7. Construct non-explosive obstacles, as required.
- 8. Employ heavy equipment assets, as required.
- 9. Submit required reports.

CHAINED EVENTS:

CAB-CMOB-4002 CAB-HEOP-4001 CAB-RECN-4005 CAB-RECN-4006 CAB-UTIL-4001

RELATED EVENTS:

1302-HORZ-1001 1302-HORZ-1002 1302-HORZ-1003 1302-RECN-1001 1302-RECN-2001

REFERENCES:

- 1. FM 5-101-5-1 Operational Terrain and Symbols
- 2. JP 3-34 Joint Engineer Operations
- 3. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design

- 4. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 5. MCRP 3-17.7D Concrete and Masonry
- 6. MCRP 3-17.7F Project Management
- 7. MCRP 3-17.7I Earthmoving Operations
- 8. MCRP 3-17A Engineering Field Data
- 9. MCWP 3-17 Engineering Operations
- 10. MCWP 3-17.4 Engineer Reconnaissance
- 11. MCWP 3-17.6 Survivability
- 12. MCWP 3-17.7 General Engineering
- 13. MCWP 3-17.8 Combined Arms Mobility Operations
- 14. MCWP 3-41.1 Rear Area Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

Facility Code 17931 Medium/Heavy Equipment Training Area

EQUIPMENT: Engineer earthmoving equipment, Engineer Material Handling Equipment, Engineer kits, Utilities equipment.

CAB-HORZ-5002: Prepare site for construction

SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2 MCT 6.1.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Prepare site for construction to reduce construction time and meet design specifications. This includes all types of limited vertical and horizontal construction.

CONDITION: Given a mission, a support plan, a site for construction or engineer operations, commander's intent, task organized personnel, equipment and references.

STANDARD: To reduce construction time and meet design specifications in accordance with the concept of operations and commander's intent.

- 1. Review construction site plan.
- 2. Analyze support requirements and location(s).
- 3. Conduct final coordination with supported unit (location, requirements, security, ground guides, etc.).
- 4. Conduct final coordination with supporting units (logistics, etc.).
- 5. Move to site.
- 6. Conduct area clearance.
- 7. Conduct earthmoving operations, as required.
- 8. Conduct demolition operations, as required.
- 9. Conduct material handling operations, as required.
- 10. Employ utilities support, as required.

11. Submit required reports.

CHAINED	EVENTS	:
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CAB-CMOB-4003	CAB-HEOP-4001	CAB-MOBL-3013
CAB-MOBL-4011	CAB-SURV-4006	CAB-UTIL-4001
CAB-VERT-4001		

RELATED EVENTS:		
1302-DEMO-1001	1302-DEMO-1002	1302-HORZ-1001
1302-HORZ-1002	1302-HORZ-1003	1302-MOBL-1003
1302-RECN-1001	1371-DEMO-1001	1371-DEMO-2002
1371-RECN-1001		

REFERENCES:

- 1. FM 2-01.3 Intelligence Preparation of the Battlefield/Battlespace
- 2. FM 5-33 Terrain Analysis
- 3. MCRP 3-17.7F Project Management
- 4. MCRP 3-17.7I Earthmoving Operations
- 5. MCRP 3-17.7M Construction Estimating
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance

SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer earthmoving equipment, Material Handling Equipment, Motor Transportation equipment, Utilities equipment.

CAB-MANT-5001: Maintain engineer equipment

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Maintain engineer equipment by conducting preventive and corrective maintenance on engineer equipment using unit assigned maintenance levels.

CONDITION: With equipment, tools, repair parts, supplies, personnel and references.

STANDARD: To sustain equipment in an operational status at or above unit's readiness requirements.

- 1. Monitor equipment readiness.
- 2. Conduct reconciliation.
- 3. Assign tasks.
- 4. Maintain organic tactical engineer equipment.
- 5. Manage maintenance programs.
- 6. Submit required reports.

CHAINED EVENTS: CAB-MANT-4001

RELATED	EVENTS:
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1120-ADMN-2006	1120-ADMN-2007	1120-ADMN-2012
1120-ADMN-2021	1120-ADMN-2022	1120-ADMN-2041
1120-ADMN-2051	1120-ADMN-2052	1120-ADMN-2061
1120-ADMN-2065	1120-ADMN-2071	1120-ADMN-2072
1120-ADMN-2073	1120-ADMN-2074	1120-ADMN-2075
1310-ADMN-2004	1310-HEOP-2001	1310-MANT-2001
1310-MANT-2002	1316-ADMN-1001	1316-ADMN-1002
1316-ADMN-1003	1316-MANT-1002	1316-MANT-1004
1316-XENG-1001	1316-XENG-1002	1316-XENG-1004
1316-XENG-1005	1316-XENG-1006	

REFERENCES:

- 1. Applicable Technical Manuals Publications
- 2. SOP Unit/Local Standard Operating Procedures
- 3. DoDI 6055.1 DoD Safety and Occupational Health (SOH) Program
- 4. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 5. MCO 4790.18_ Corrosion Prevention and Control (CPAC) Program
- 6. MCO 5100.29_ Marine Corps Safety Program
- 7. MCO P4733.1_ Marine Corps TMDE Calibration and Maintenance Program
- 8. MCWP 4-11 Tactical-Level Logistics
- 9. MCWP 4-11.4 Maintenance Operations
- 10. TM 11275-15/3_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 11. TM 4700-15/1_ Ground Equipment Record Procedures

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17931 Medium/Heavy Equipment Training Area

MATERIAL: Tools sets chests and kits

<u>UNITS/PERSONNEL</u>: Engineer equipment mechanics, utilities maintenance personnel, welders, equipment operators.

OTHER SUPPORT REQUIREMENTS: POL and HAZ-MAT

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

<u>CAB-MOBL-5001</u>: Conduct obstacle breaching operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct obstacle breaching operations to breach lanes through enemy obstacles, to advance an attacking force to the far side of an obstacle

that is covered by fire.

CONDITION: Given a mission, commander's intent, a map, designated area, tasked organized personnel, equipment, and references.

STANDARD: To breach lanes through enemy obstacles to support the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Gather obstacle intelligence, as required.
- 2. Analyze obstacle intelligence.
- 3. Determine breach requirement.
- 4. Task organize obstacle clearing detachment(s) (OCD).
- 5. Coordinate suppression of enemy over-watching obstacle.
- 6. Coordinate obscuration of enemy over-watching obstacle.
- 7. Coordinate security for breach lanes.
- 8. Coordinate breach with assault force, support force, and support breach team(s).
- 9. Verify suppression/obscuration effects.
- 10. Destroy fortifications, as required.
- 11. Breach lanes through obstacle(s).
- 12. Turnover lane(s) to designated forces.
- 13. Reconstitute the breach force.
- 14. Submit required reports.

CHAINED EVENTS:

CAB-HEOP-4001	CAB-MOBL-4001	CAB-MOBL-4002
CAB-MOBI-4003	CAB-MOBL-4004	

RELATED EVENTS:

1302-MOBL-1005	1371-MOBL-1005	1371-MOBL-2012
1371-MOBL-2017		

REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.3 MAGTF Breaching Operations
- 8. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17413 Field Training Area Facility Code 17420 Maneuver/Training Area, Heavy Forces

Facility Code 17931 Medium/Heavy Equipment Training Area

EQUIPMENT: Combat engineer breaching equipment/weapons, Engineer earthmoving equipment, Engineer Material Handling Equipment.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Type/quantities of ammunition, explosives and pyrotechnics are documented with the 4000 Level Events Chained to this event.

CAB-MOBL-5002: Conduct route clearance operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct route clearance operations to detect and if found, identify, mark, and reduce explosive hazards and other obstacles along a defined route. Obstacles may include mines, unexploded ordnance, improvised explosive devices, non-explosive obstacles, and damage to the route that severely limits mobility. The route will only be cleared while it remains under the control/observation of friendly forces.

CONDITION: Provided a mission, designated route with known/potential/suspected obstacle(s), personnel, engineer tools and equipment, intelligence support, Class V supplies and references.

STANDARD: To ensure friendly force mobility on the route in accordance with the commander's intent, while the route remains in friendly forces control.

EVENT COMPONENTS:

- 1. Analyze route intelligence.
- 2. Task organize.
- 3. Coordinate with supported unit.
- 4. Coordinate with supporting units.
- 5. Detect obstacles on route.
- Identify obstacle(s).
- 7. Mark obstacle(s), as required.
- 8. Reduce obstacle(s), as required.
- 9. Verify obstacle reduction.
- 10. Identify bypasses, as required.
- 11. Submit required reports.

CHAINED EVENTS:

CAB-HEOP-4001 CAB-MOBL-4005 CAB-MOBL-4006

CAB-MOBL-4007 CAB-MOBL-4008

REFERENCES:

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. GTA 5-7-13 Bridge Classification Booklet
- 3. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 4. MCRP 3-17.2D Explosive Hazard Operations
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports

- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

Facility Code 17830 Light Demolition Range

Facility Code 17931 Medium/Heavy Equipment Training Area

EQUIPMENT: Combat engineer demolition equipment, engineer equipment.

UNITS/PERSONNEL: Corpsman, Range Safety Officer, EOD.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Type/quantities of ammunition, explosives and pyrotechnics are documented with the 4000-Level Events Chained to this event.

CAB-MOBL-5003: Construct expedient Helicopter Landing Zone (HLZ)

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Conduct construction of expedient HLZ, includes but is not limited to clearing and grubbing geographical locations for takeoff and landing of rotary wing in support of troop transport, resupply, MEDEVAC operations, etc.

CONDITION: Given a mission, commander's intent, available resources, and references.

STANDARD: To create a landing site that will support rotary wing aircraft for the loading and unloading of personnel, resupply, and equipment in accordance with commander's intent, concept of operations and supported unit requirements.

- 1. Task organize.
- 2. Conduct engineer reconnaissance.
- 3. Conduct survey.
- 4. Coordinate resource requirements.
- 5. Issue order.
- 6. Clear landing site.
- 7. Maintain/improve landing site, as required.
- 8. Submit required reports.

CHAINED EVENTS:

CAB-HEOP-4001 CAB-RECN-4005 CAB-RECN-4006

RELATED EVENTS:

1302-MOBL-1016 1302-RECN-1001 1371-MOBL-2001

REFERENCES:

- 1. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 2. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 3. MCRP 3-17.7F Project Management
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17420 Maneuver/Training Area, Heavy Forces Facility Code 17918 Road/Airfield Construction Training Site

EQUIPMENT: Engineer earthmoving equipment, Engineer Material Handling Equipment, Pioneer kit (w/chainsaws).

CAB-MOBL-5004: Construct combat roads

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Construct and maintain limited combat roads and trails in support of division operations (construction and maintenance requirements are limited to those that can be performed with organic equipment and personnel, typically limited to class D roads). The construction and maintenance of trails and roads are normally considered general engineering tasks and are therefore performed by engineering support units. However, areas at or near the Forward Line Of Troops (FLOT) or time constrictions may require the forward combat engineer units to perform these functions in an expedient manner or for short duration of time until support engineers are available. Engineers should always strive to take full advantage of existing infrastructure and natural terrain features when constructing combat trails and roads.

CONDITION: Provided a mission order, commander's intent, a tactical situation, task organization of engineer equipment and personnel.

STANDARD: That meets the minimum traffic support requirements in accordance with the commander's intent and the mobility plan.

- 1. Review mission.
- 2. Conduct engineer reconnaissance.

- 3. Conduct survey.
- 4. Task organize.
- 5. Coordinate with supporting units.
- 6. Issue order.
- 7. Conduct site preparations, as required.
- 8. Clear the road.
- 9. Construct expedient drainage structures, as required.
- 10. Conduct expedient soil stabilization, as required.
- 11. Submit required reports.

CHAINED EVENTS:

CAB-HEOP-4001 CAB-RECN-4006	CAB-MOBL-4009	CAB-RECN-4005
RELATED EVENTS:		
1302-HORZ-1002	1302-HORZ-1003	1302-MOBL-1001
1302-RECN-1001	1310-HEOP-2001	1310-HORZ-2001
1310-HORZ-2002	1310-HORZ-2003	1345-HEOP-1003
1345-HEOP-1006	1345-HEOP-1007	1345-HORZ-2001
1345-MANT-2001	1349-HEOP-2001	1349-HORZ-2001
1349-HORZ-2002	1349-HORZ-2003	1349-MANT-2002
1371-EOPS-2002	1371-EOPS-2003	1371-EOPS-2007
1371-EOPS-2011	1371-HORZ-2001	1371-HORZ-2002
1371-HORZ-2003	1371-RECN-1001	1371-RECN-2001

REFERENCES:

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 3. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 4. MCRP 3-17.7F Project Management
- 5. MCRP 3-17.7I Earthmoving Operations
- 6. MCRP 3-17.7L Explosives and Demolitions
- 7. MCRP 3-17A Engineering Field Data
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.8 Combined Arms Mobility Operations
- 11. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

Facility Code 17918 Road/Airfield Construction Training Site

EQUIPMENT: Engineer Material Handling Equipment, Combat engineer

equipment, Utilities equipment.

<u>UNITS/PERSONNEL</u>: Range Safety Officer, Corpsman.

CAB-PINF-5001: Fight as provisional infantry

SUPPORTED MCT(S):

MCT 1.1.2 MCT 1.12.1 MCT 1.4.1

MCT 1.4.2 MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Provide provisional infantry to participate in offensive operations such as attacks, raids, and movement to contact. Defensive operations that include withdrawal, patrolling, check point ops, convoy ops, and employment of organic weapons. Additional responsibilities may include operations other than war (civil disturbance, TRAP, cordon and search) and MOUT (attack, defend, patrol, clear a building, vehicle check point).

CONDITION: Given a requirement, commander's intent and references.

STANDARD: To augment supported unit or conduct offensive and defensive operations in accordance with commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Conduct planning.
- 2. Task organize.
- 3. Issue orders.
- 4. Conduct inspections, rehearsals, and preparations.
- 5. Elements employ appropriate formations and tactics.
- 6. Conduct final preparations.
- 7. Use, coordinate, and observe fires.
- 8. Employ supporting arms, as required.
- 9. Establish redundant communications.
- 10. Treat and evacuate casualties, as required.
- 11. Process detainees, as required.
- 12. Send and receive required reports.

CHAINED EVENTS:

CAB-MOBL-3001 CAB-MOBL-3008 CAB-MOBL-3009

CAB-PINF-4001

REFERENCES:

- 1. MCDP 1 Warfighting
- 2. MCDP 1-3 Tactics
- 3. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 4. MCRP 3-02G First Aid
- 5. MCWP 3-11.2 Marine Rifle Squad

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17730 Fire and Movement Range

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Type/quantities of ammunition, explosives and pyrotechnics are documented with the 3000 Level Events Chained to this event.

CAB-RECN-5001: Conduct engineer reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct engineer reconnaissance to collect data and obtain detailed information, within/along designated routes, zones, and/or areas that provides the MAGTF information on terrain and infrastructure (e.g., built-up areas, transportation networks, utilities and existing natural or manmade obstacles/resources) necessary to support ongoing or future operations.

CONDITION: Given a mission, commander's intent, task organization of personnel and equipment, and references.

STANDARD: To gather all relevant engineer data and produce an engineer estimate in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Review reconnaissance plan.
- 2. Analyze support requirements and location(s).
- 3. Conduct final coordination with supported unit (location, requirements, security, ground guides, etc.).
- 4. Conduct final coordination with supporting units (logistics, etc.).
- 5. Conduct zone reconnaissance, as required.
- 6. Conduct area reconnaissance, as required.
- 7. Conduct route reconnaissance, as required.
- 8. Conduct host-nation infrastructure assessment, as required.
- 9. Submit required reports.

CHAINED EVENTS:

CAB-RECN-4001 CAB-RECN-4002 CAB-RECN-4003

CAB-RECN-4005 CAB-RECN-4006

RELATED EVENTS:

1302-RECN-1001 1371-RECN-2001

REFERENCES:

- 1. JP 3-34 ENGINEER DOCTRINE FOR JOINT OPERATIONS
- 2. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 3. MCRP 3-17A Engineering Field Data
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance
- 7. MCWP 3-17.8 Combined Arms Mobility Operations

CAB-RECN-5002: Conduct cache sweep operations

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 6 months

<u>DESCRIPTION</u>: Conduct cache sweep operations in order to detect, identify and secure materials (documents, discs, tapes, weapons, explosives, ammunition, chemical materials, bombs, electronic equipment, etc.). Appropriate safety and evidentiary preservation measures should be employed during cache sweeps.

CONDITION: Provided a mission, designated area/building to search for known, potential, or suspected materials that may be used against friendly forces or be of intelligence value.

STANDARD: To detect, identify and secure materials discovered during the course of the search in accordance with the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Analyze search area intelligence.
- 2. Tasks organize.
- 3. Coordinate with supported unit.
- 4. Coordinate with supporting units.
- 5. Detect cache within search area.
- 6. Identify items within cache(s).
- 7. Mark cache(s), as required.
- 8. Destroy captured enemy ammunition, as required.
- 9. Verify cache destruction.
- 10. Coordinate explosive ordnance disposal activities, as required.
- 11. Coordinate weapons intelligence team activities, as required.
- 12. Coordinate with other specialist personnel, as required.
- 13. Document/preserve evidence, as required.
- 14. Submit required reports.

CHAINED EVENTS:

RELATED EVENTS:

1302-DEMO-1004	1302-MOBL-1002	1302-MOBL-1003
1302-MOBL-1009	1371-MOBL-1002	1371-MOBL-1003
1371-MOBL-2018	1371-MOBL-2020	1371-MOBL-2021
1371-MOBL-2022		

REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.2 MAGTF Explosive Ordnance Disposal
- 7. MCWP 3-17.4 Engineer Reconnaissance

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer tools and kits.

UNITS/PERSONNEL: Explosive ordnance disposal personnel, Weapons

Intelligence Team, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Type/quantities of ammunition, explosives and pyrotechnics are documented with the 4000-Level Events Chained to this event.

CAB-SURV-5001: Construct survivability positions

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Construct positions designed to reduce the vulnerability of personnel, equipment, weapons, and supplies to enemy fire and as a means to enhance force protection. Positions may include fighting and protective positions.

CONDITION: Provided a mission, commander's intent, reconnaissance reports, survivability plan, a task organization of personnel and equipment, and references.

STANDARD: That meets the mission requirements in accordance with the concept of operations and commander's intent.

- 1. Plan survivability construction.
- 2. Analyze engagement areas, battle positions, and weapons location.
- 3. Conduct engineer reconnaissance and survey.
- 4. Coordinate with supported unit for specific position placement and requirements.
- 5. Coordinate resources for project.
- 6. Conduct site preparation.
- 7. Harden existing structure(s), as required.
- 8. Emplace pre-fabricated barriers, as required.
- 9. Provide SME input to AT/FP plan, as required.
- 10. Construct field fortification, as required.
- 11. Construct Vehicle Control Point (VCP), as required.
- 12. Construct Entry Access Point (EAP), as required.
- 13. Construct earth filled barrier/structure, as required.
- 14. Construct individual fighting positions, as required.
- 15. Construct vehicle fighting positions, as required.
- 16. Construct vehicle survivability positions/revetments, as required.
- 17. Construct crew-served weapon positions, as required.
- 18. Construct overhead cover, as required.
- 19. Construct shelter/bunker, as required.
- 20. Construct berms, as required.
- 21. Conduct earth moving operations, as required.
- 22. Construct triggering screen, as required.
- 23. Construct trench, as required.
- 24. Provide electrical power, as required.
- 25. Submit required reports.

CHAINED	EVENTS:
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CAB-HEOP-4001	CAB-RECN-4005	CAB-SURV-3001
CAB-SURV-3002	CAB-SURV-3003	CAB-SURV-3004
CAB-SURV-3005	CAB-SURV-3006	CAB-SURV-3007
CAB-SURV-3008	CAB-SURV-4001	CAB-SURV-4002
CAB-SURV-4003	CAB-SURV-4004	CAB-SURV-4005
CAB-SURV-4006	CAB-UTIL-4001	CAB-VERT-4001
CAB-VERT-4001	CAB-VERT-4002	CAB-VERT-4003

- 1. JP 3-34 ENGINEER DOCTRINE FOR JOINT OPERATIONS
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17.7K Theater of Operations Electrical Systems
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.4 Engineer Reconnaissance
- 9. MCWP 3-17.6 Survivability
- 10. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 11. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 12. MCWP 3-35.5 Jungle Operations
- 13. MCWP 3-41.1 Rear Area Operations
- 14. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

EQUIPMENT: Combat engineer equipment, Engineer earthmoving equipment, Material Handling Equipment, Utilities equipment.

MATERIAL: Map, Compass, Protractor, Overlay sheets, Reconnaissance
reports.

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

<u>CAB-UTIL-5001</u>: Provide limited utilities support

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Provide tactical electrical supply and distribution; heating, ventilation, air conditioning and refrigeration service; and maintenance capabilities for specified utilities equipment in accordance with the unit's mission statement.

CONDITION: Given a mission, support plan, equipment availability, personnel, equipment, and references.

STANDARD: To provide support IAW with the concept of operations and in accordance with commander's intent.

EVENT COMPONENTS:

- 1. Coordinate supported unit requirements.
- 2. Establish utilities plan.
- Establish utilities site(s).
- 4. Provide tactical electrical support, as required.
- 5. Provide non-tactical utilities support, as required.
- 6. Provide water production/storage/distribution equipment.
- 7. Maintain utilities equipment.
- 8. Recover utilities equipment, as required.
- 9. Submit required reports.

CHAINED EVENTS:

CAB-MANT-4001	CAB-UTIL-4001	
RELATED EVENTS:		
1120-ADMN-2001	1120-ADMN-2002	1120-ADMN-2003
1120-ADMN-2004	1120-ADMN-2005	1120-ADMN-2006
1120-ADMN-2007	1120-ADMN-2012	1120-ADMN-2021
1120-ADMN-2022	1120-ADMN-2031	1120-ADMN-2051
1120-ADMN-2052	1120-ADMN-2061	1120-ADMN-2065
1120-ADMN-2071	1120-ADMN-2072	1120-ADMN-2073
1120-ADMN-2074	1120-ADMN-2075	1120-ADMN-2081
1120-ADMN-2091	1120-ADMN-2092	1120-XENG-2501
1120-XENG-2502	1120-XENG-2521	1120-XENG-2522
1120-XENG-2553	1120-XENG-2555	1120-XENG-2558
1120-XENG-2561	1120-XENG-2581	1120-XENG-2621
1120-XENG-2622	1120-XENG-2653	1120-XENG-2655
1120-XENG-2658	1120-XENG-2721	1120-XENG-2752
1120-XENG-2753	1120-XENG-2755	1120-XENG-2758
1120-XENG-2821	1120-XENG-2853	1120-XENG-2855
1120-XENG-2858	1120-XENG-2965	1120-XENG-2966
1120-XENG-2988	1120-XENG-2989	

REFERENCES:

- 1. Appropriate Technical Manuals
- NAVMED P-5010-5 Manual of Preventive Medicine, Chapter 5, Water Supply Ashore (Nov 90)
- 3. 29 CFR 1910.147 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 147 Control of Hazardous Energy (Lockout/Tagout)
- 4. 29 CFR 1910.269 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 269 Electrical Power Generation, Transmission, and Distribution
- 5. 29 CFR 1910.301-399 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Subpart S, (Standard Numbers 301-399) Electrical
- 6. 40 CFR 82 Chapter 40, Code of Federal Regulations, Part Number 82 (Protection of Stratospheric Ozone)
- 7. 42 USC 85 VI 7671 Title 42, United States Code, Chapter 85, Subchapter VI, Section 7671 (Ozone Protection)
- 8. FM 10-52 Water Supply in Theaters of Operation
- 9. FM 10-52-1 Water Supply Point Equipment and Operations
- 10. FM 5-424 Theater of Operations Electrical Systems
- 11. JP 4-03 Joint Bulk Petroleum and Water Doctrine

- 12. MCO 5090.1 Chlorofluorocarbons (CFC's) and Halons
- 13. MCRP 3-17B Engineer Forms and Reports
- 14. MCRP 4-11.1D Field Hygiene and Sanitation
- 15. MCRP 4-11B Environmental Considerations
- 16. MCWP 3-17 Engineering Operations
- 17. MCWP 3-17.4 Engineer Reconnaissance
- 18. MCWP 4-11 Tactical-Level Logistics
- 19. MCWP 4-11.4 Maintenance Operations
- 20. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 21. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 22. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 23. TB MED 577 Occupational and Environmental Health Sanitary Control and Surveillance of Field Water Supplies
- 24. TB MED 593 Guidelines for Field Waste Management
- 25. TC 3-34.489 The Soldier and the Environment
- 26. TM 11275-15/3_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 27. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment

SUPPORT REQUIREMENTS:

EQUIPMENT: Utilities equipment, Engineer Material Handling Equipment, Motor Transport equipment, HAZMAT handling equipment.

CAB-VERT-5001: Conduct limited vertical construction

SUPPORTED MCT(S):

MCT 1.4.1 MCT 6.1.4

EVALUATION-CODED: NO **SUSTAINMENT INTERVAL:** 12 months

<u>DESCRIPTION</u>: Conduct vertical construction to build or improve existing structures, or construct base camps, command posts, and maintenance facilities for the GCE.

CONDITION: Given a mission, commander's intent, tactical situation, task organized equipment and personnel, design specifications, construction materials and appropriate references.

<u>STANDARD</u>: To build and/or improve facilities that meet the minimum requirements listed in the design specifications in accordance with the commander's intent and concept of operations.

- 1. Plan vertical construction.
- 2. Conduct engineer reconnaissance.
- 3. Conduct survey, as required.
- 4. Coordinate resources for project.
- 5. Conduct site preparation.
- 6. Repair facility, as required.
- 7. Erect prefabricated structure, as required.

- 8. Construct wood frame structure, as required
- 9. Construct timber structure, as required.
- 10. Construct expedient drainage structure, as required.
- 11. Wire structure for electricity, as required.
- 12. Submit required reports.

CHAINED EVENTS:

CAB-RECN-4005	CAB-RECN-4006	CAB-SURV-4001
CAB-SURV-4002	CAB-UTIL-4001	CAB-VERT-4001
CAB-VERT-4002	CAB-VERT-4003	CAB-VERT-4004
CAB-VERT-4005		

RELATED EVENTS:

KETAIED EAGNID:		
1302-HORZ-1001	1302-RECN-1001	1302-VERT-1001
1371-EOPS-2005	1371-EOPS-2006	1371-EOPS-2007
1371-EOPS-2010	1371-EOPS-2011	1371-HORZ-2002
1371-HORZ-2003	1371-HORZ-2004	1371-HORZ-2005
1371-RECN-1001	1371-VERT-1001	1371-VERT-1002
1371-VERT-1003	1371-VERT-1004	1371-VERT-1005
1371-VERT-2001	1371-VERT-2002	

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. JP 3-07; 29 September 2011 Stability Operations
- 3. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 4. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 5. MCRP 3-17.7C Carpentry
- 6. MCRP 3-17.7D Concrete and Masonry
- 7. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 8. MCRP 3-17.7F Project Management
- 9. MCRP 3-17.7I Earthmoving Operations
- 10. MCRP 3-17.7K Theater of Operations Electrical Systems
- 11. MCRP 3-17.7M Construction Estimating
- 12. MCRP 3-17.7N Base Camps
- 13. MCRP 3-17A Engineering Field Data
- 14. MCWP 3-17 Engineering Operations
- 15. MCWP 4-11 Tactical-Level Logistics
- 16. TM 5-811-1 Electric Power Supply and Distribution

SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer earthmoving equipment, Combat engineer tools and equipment; kits, Material Handling Equipment.

3006. 4000-LEVEL EVENTS

CAB-CMOB-4001: Create an explosive obstacle

SUPPORTED MCT(S): MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Create an explosive obstacle to turn, block, fix, or disrupt enemy movement or maneuver of personnel or equipment.

<u>CONDITION</u>: Given a mission, commander's intent, location to emplace the obstacle, task organized personnel and equipment, and resources (Class IV and V supplies, etc.).

STANDARD: That is part of an obstacle group, intended to turn, block, fix, or disrupts enemy personnel or equipment in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Analyze obstacle plan.
- 2. Analyze engagement areas, battle positions, and weapons location.
- 3. Determine actual work sequence.
- 4. Finalize coordination with supported unit for specific obstacle placement and observation.
- 5. Coordinate overwatch/security for obstacle construction.
- 6. Move to obstacle site.
- 7. Emplace expedient anti-personnel devices, as required.
- 8. Account for all personnel and equipment prior to returning to friendly lines.
- 9. Coordinate lane closure plan with supported unit, as required.
- 10. Submit required reports.

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CAB-HEOP-3002		
RELATED EVENTS:		
1302-CMOB-1001	1302-CMOB-1002	1310-ADMN-2002
1310-ADMN-2006	1310-ADMN-2009	1310-ADMN-2010
1310-HEOP-2001	1310-MANT-2002	1345-ADMN-1002
1345-ADMN-2002	1345-HEOP-1003	1345-HEOP-1004
1345-HEOP-1005	1345-HEOP-1006	1345-HEOP-2009
1345-HEOP-2009	1345-MANT-1001	1349-ADMN-2002
1349-ADMN-2006	1349-ADMN-2009	1349-ADMN-2010
1349-HEOP-2001	1349-MANT-2002	1371-CMOB-1003
1371-CMOB-2001	1371-CMOB-2003	1371-DEMO-1002

CAB-CMOB-3002 CAB-CMOB-3003 CAB-HEOP-3001

REFERENCES:

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. UNIT SOP Unit's Standing Operating Procedures
- 3. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 4. MCRP 3-17.2D Explosive Hazard Operations
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.4 Engineer Reconnaissance
- 9. MCWP 3-17.8 Combined Arms Mobility Operations
- 10. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
K143 Mine, Antipersonnel M18A1 with M57 F	1 mines per squad
L495 Flare, Surface Trip M49 Series	4 flares per squad
L598 Simulator, Explosive Booby Trap Flas	4 Simulator per squad
M032 Charge, Demolition Block TNT 1-Pound	10 charges per squad
M039 Charge, Demolition Cratering 40-Poun	1 charges per squad
M130 Cap, Blasting Electric M6	10 blasting caps per squad
M131 Cap, Blasting Non-Electric M7	20 blasting caps per squad
M420 Charge, Demolition Shaped M2 Series	1 charges per squad
M421 Charge, Demolition Shaped M3 Series	1 charges per squad
M456 Cord, Detonating PETN Type I Class E	1500 FT per squad
M591 Dynamite, Military M1	10 charges per squad
M670 Fuse, Blasting Time M700	500 FT per squad
M757 Charge, Assembly Demolition M183 Com	2 charges per squad
ML03 Firing Device, Demolition Multi-Purp	2 primers per squad
MN08 Igniter, Time Blasting Fuse with Sho	35 igniters per squad

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RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17730 Fire and Movement Range Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer equipment, Material Handling Equipment.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event.

CAB-CMOB-4002: Create non-explosive obstacles/barriers

SUPPORTED MCT(S): MCT 1.4.2

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 6 months

DESCRIPTION: Create non-explosive obstacles/barriers to turn, block, fix, or disrupt enemy movement or maneuver of personnel or equipment.

<u>CONDITION</u>: Given a mission, commander's intent, location to emplace the obstacle, task organized personnel and equipment, and resources (Class IV supplies, natural terrain, battlefield materials, etc.).

<u>STANDARD</u>: That is part of an obstacle group that will turn, block, fix, or disrupts enemy personnel or equipment in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Analyze obstacle plan.
- 2. Analyze engagement areas, battle positions, and weapons location.
- 3. Determine actual work sequence.
- 4. Finalize coordination with supported unit for specific obstacle placement and observation.
- 5. Coordinate overwatch/ security for obstacle construction.
- 6. Move to obstacle site.
- 7. Tie obstacles into natural/existing obstacles, as required.
- 8. Emplace obstacles (barriers, hedgehogs, etc.), as required.
- 9. Emplace wire obstacles, as required.
- Emplace field expedient obstacles (logs, abatis, rubble, etc.), as required.
- 11. Create craters, as required.
- 12. Emplace deception obstacles, as required.
- 13. Create tank ditches, as required.
- 14. Account for all personnel and equipment prior to returning to friendly lines.
- 15. Coordinate lane closure plan with supported unit, as required.
- 16. Submit required reports.

CHAINED EVENTS:

CAB-CMOB-3001	CAB-CMOB-3002	CAB-CMOB-3003
CAB-HEOP-3001	CAB-HEOP-3002	CAB-MOBL-3010
RELATED EVENTS:		
1302-CMOB-1001	1302-CMOB-1002	1310-HEOP-2001
1310-HORZ-2001	1310-HORZ-2002	1310-MANT-2002
1316-ADMN-1001	1316-ADMN-1002	1316-ADMN-2001
1316-ADMN-2002	1316-XENG-1001	1316-XENG-1006
1316-XENG-2002	1345-HEOP-1003	1345-HEOP-1004
1345-HEOP-1006	1345-HEOP-2007	1345-HEOP-2009
1345-HORZ-2001	1349-HEOP-2001	1349-HORZ-2001
1349-HORZ-2002	1349-MANT-2002	1371-CMOB-1001
1371-CMOB-2001	1371-CMOB-2003	

REFERENCES:

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. UNIT SOP Unit's Standing Operating Procedures
- 3. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance
- 7. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
L495 Flare, Surface Trip M49 Series	6 flares per squad
M032 Charge, Demolition Block TNT 1-Pound	12 charges per squad
M039 Charge, Demolition Cratering 40-Poun	12 charges per squad
M130 Cap, Blasting Electric M6	12 blasting caps per squad
M131 Cap, Blasting Non-Electric M7	12 blasting caps per squad

M327 Coupling Base, Firing Device with Pr
M421 Charge, Demolition Shaped M3 Series
M456 Cord, Detonating PETN Type I Class E
M591 Dynamite, Military M1
M670 Fuse, Blasting Time M700
M757 Charge, Assembly Demolition M183 Com
ML03 Firing Device, Demolition Multi-Purp
MN08 Igniter, Time Blasting Fuse with Sho
MN14 Firing Device, Dual Mode MK54
MN52 MK154 Mod 0

12 primers per squad
8 charges per squad
1000 FT per squad
10 charges per squad
6 cases per squad
12 detonators per squad
12 igniters per squad
13 detonators per squad
14 detonators per squad
15 detonators per squad
16 detonators per squad
17 detonators per squad
18 detonators per squad

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17730 Fire and Movement Range Facility Code 17931 Medium/Heavy Equipment Training Area

EQUIPMENT: Combat engineer equipment, Material Handling Equipment, Engineer earthmoving equipment.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

<u>CAB-CMOB-4003</u>: Employ demolitions in support of countermobility operations

SUPPORTED MCT(S): MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Employ Class V munitions to create mobility obstacles (explosively) such as craters, ditches or to destroy structures (bridges, tunnels, etc.). This could include field expedient explosive obstacles (improvised anti-vehicular/anti-personnel explosive devices) to destroy enemy personnel and equipment.

CONDITION: Provided a mission order, task organized personnel and equipment, Class V, personal protective equipment (PPE), and references.

STANDARD: To construct countermobility obstacles at designated areas/routes to fix, delay, disrupt enemy vehicles and personnel per commander's intent, concept of operations, and mission requirement.

- 1. Review the mission.
- Coordinate with supporting unit(s).
- 3. Conduct final coordination with supported unit (location, requirements, security, etc.), as required.
- 4. Prepare equipment and materials for operation.

- 5. Move to obstacle sites(s).
- 6. Setup security.
- 7. Prepare charges.
- 8. Place charges.
- 9. Create obstacle(s), as required.
- 10. Inspect obstacle(s), as required.
- 11. Improve obstacle site with support equipment, as required.
- 12. Reconstitute the force.
- 13. Submit required reports.

CHAINED EVENTS:

CAB-CMOB-3001	CAB-CMOB-3002	CAB-CMOB-3003
CAB-DEMO-3001	CAB-DEMO-3002	CAB-DEMO-3003
CAB-DEMO-3004		
RELATED EVENTS:		
1302-CMOB-1001	1302-CMOB-1002	1310-ADMN-2002
1310-ADMN-2006	1310-ADMN-2009	1310-ADMN-2010
1310-HEOP-2001	1310-MANT-2002	1345-ADMN-1002
1345-ADMN-2002	1345-HEOP-1003	1345-HEOP-1004
1345-HEOP-1005	1345-HEOP-1006	1345-HEOP-2009
1345-MANT-1001	1349-ADMN-2002	1349-ADMN-2006
1349-ADMN-2009	1349-ADMN-2010	1349-HEOP-2001
1349-MANT-2002	1371-CMOB-1003	1371-CMOB-2001

1371-DEMO-1002

REFERENCES:

1371-CMOB-2003

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	<u>Quantity</u>
M023 Charge, Demolition Block M112 1-1/4	20 charges per squad
M032 Charge, Demolition Block TNT 1-Pound	10 charges per squad
M039 Charge, Demolition Cratering 40-Poun	10 charges per squad
M130 Cap, Blasting Electric M6	6 blasting caps per squad
M131 Cap, Blasting Non-Electric M7	6 blasting caps per squad
M420 Charge, Demolition Shaped M2 Series	5 charges per squad
M421 Charge, Demolition Shaped M3 Series	10 charges per squad
M456 Cord, Detonating PETN Type I Class E	1000 FT per squad
M591 Dynamite, Military M1	10 charges per squad
M670 Fuse, Blasting Time M700	500 FT per squad
ML03 Firing Device, Demolition Multi-Purp	6 igniters per squad
MN08 Igniter, Time Blasting Fuse with Sho	6 igniters per squad

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: Engineer Material Handling equipment, Combat engineer

Demolitions kit

UNITS/PERSONNEL: Range Safety Officer, Corpsman

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CAB-HEOP-4001: Conduct Material Handling Equipment (MHE) operations

SUPPORTED MCT(S):

MCT 1.12.1 MCT 1.4.1 MCT 1.4.2

MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Provide Material Handling Equipment (MHE) support to enable handling of loads (equipment, supplies, materials, etc.) exceeding carrying capacity of personnel.

CONDITION: Given a mission, commander's intent, personnel and equipment, and references.

STANDARD: To provide support an IAW unit SOPs or guidance to support the concept of operations and in accordance with commander's intent.

EVENT COMPONENTS:

- 1. Review tasking.
- 2. Coordinate with supported unit (location, requirements, security, ground guides, etc.).
- 3. Operate MHE, as required.
- 4. Load and unload materiel(s), as required.
- 5. Employ safety measures, as required.
- 6. Submit required reports.

CHAINED EVENTS:

CAB-HEOP-3001	CAB-HEOP-3002	CAB-MANT-3001

RELATED EVENTS:

1310-HEOP-2001	1310-HORZ-2001	1310-HORZ-2002
1310-HORZ-2003	1345-HEOP-2012	1345-HORZ-2001
1345-MANT-2001	1349-HEOP-2001	1349-HORZ-2001
1349-HORZ-2002	1349-HORZ-2003	

REFERENCES:

- 1. MCRP 3-17B Engineer Forms and Reports
- 2. MCWP 3-41.1 Rear Area Operations
- 3. MCWP 4-11 Tactical-Level Logistics
- 4. MCWP 4-11.4 Maintenance Operations

SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer Material Handling equipment, Engineer support equipment.

CAB-MANT-4001: Maintain engineer equipment

SUPPORTED MCT(S):

MCT 1.1.2 MCT 4.4.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: As a CAB unit (platoon) in support of the GCE, manage and conduct preventive and corrective maintenance on engineer equipment.

CONDITION: With equipment, tools, repair parts, supplies, personnel and references.

STANDARD: To sustain equipment in an operational status at or above units readiness requirements.

CAB-MANT-3002 CAB-MANT-3003

EVENT COMPONENTS:

- 1. Monitor equipment readiness.
- 2. Conduct reconciliation.
- 3. Assign tasks.
- 4. Maintain organic tactical engineer equipment.
- 5. Manage maintenance programs.
- 6. Submit required reports.

CHAINED	EVENTS	:
CAB-MANT	r-3001	

CAB-MANT-3004		
RELATED EVENTS:		
1169-ADMN-2006	1169-ADMN-2007	1169-ADMN-2012
1169-ADMN-2021	1169-ADMN-2022	1169-ADMN-2041
1169-ADMN-2051	1169-ADMN-2052	1169-ADMN-2061
1169-ADMN-2064	1169-ADMN-2071	1169-ADMN-2072
1169-ADMN-2073	1169-ADMN-2074	1169-ADMN-2075
1310-ADMN-2004	1310-ADMN-2009	1310-MANT-2001
1310-MANT-2002	1341-ADMN-1001	1341-ADMN-1002
1341-ADMN-2002	1341-ADMN-2003	1341-ADMN-2004
1341-MANT-1001	1341-MANT-1002	1341-MANT-2010
1349-ADMN-2002	1349-ADMN-2004	1349-ADMN-2009
1349-ADMN-2010	1349-MANT-2001	1349-MANT-2002

REFERENCES:

- 1. Applicable Technical Manuals Publications
- 2. EMC Electric Motor Controls by American Technical Publishers, Inc.
- 3. Local Standard Operating Procedures (SOP)
- 4. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 5. DoDI 6055.1 DoD Safety and Occupational Health (SOH) Program

- 6. MCO 4731.1_ Oil Analysis Program for Ground Equipment
- 7. MCO 4733.1_ Marine Corps Test, Measurement, and Diagnostics Equipment (TMDE) Calibration and Maintenance Program (CAMP)
- 8. MCO 4790.18_ Corrosion Prevention and Control (CPAC) Program
- 9. MCO 5100.29_ Marine Corps Safety Program
- 10. MCO P4790.2_ MIMMS Field Procedures Manual

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17931 Medium/Heavy Equipment Training Area

EQUIPMENT: Tools, sets, chests, and kits.

CAB-MOBL-4001: Conduct deliberate breach

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Conduct a deliberate breach (mounted and dismounted) to cross a well-defended obstacle in order to continue the mission.

CONDITION: Provided a tactical scenario, mission, a minefield (or other suitable explosive/non-explosive obstacle), a task-organized breach force with personnel, equipment, and demolitions or explosives in their assault position.

STANDARD: To reduce, proof, and mark lane through a minefield/obstacle in accordance with the mission and commander's intent.

EVENT COMPONENTS:

- 1. Verify obstacle intelligence, as required.
- 2. Coordinate suppression of enemy over-watching obstacle.
- 3. Coordinate obscuration of enemy over-watching obstacle.
- 4. Coordinate security for breach lane.
- 5. Coordinate breach with assault force, support force, and support breach team(s).
- 6. Verify suppression/obscuration effects.
- 7. Employ deception plan, as required.
- 8. Move to breach site.
- 9. Reduce lane through obstacle.
- 10. Conduct gap crossing, as required.
- 11. Conduct earthmoving operations, as required.
- 12. Proof lane through obstacle.
- 13. Mark lane through obstacle.
- 14. Coordinate passage of assault force through breached lane.
- 15. Turnover lane to designated forces.
- 16. Submit required reports.
- 17. Reconstitute the breach force.

CHAINED EVENTS:

CAB-HEOP-3001 CAB-HEOP-3002 CAB-MOBL-3001

CAB-MOBL-3002 CAB-MOBL-3005 CAB-MOBL-3003 CAB-MOBL-3004

CAB-RECN-3001

REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCWP 3-17.3 MAGTF Breaching Operations
- 5. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

<u>Quantity</u>
24 rounds per squad
4 rockets per squad
4 rockets per squad
1 cases per squad
10 charges per squad
10 blasting caps per squad
20 blasting caps per squad
1500 FT per squad
500 FT per squad
2 charges per squad
1 charges per squad
2 charges per squad
2 primers per squad
35 igniters per squad
1 mines per squad

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces Facility Code 17830 Light Demolition Range Facility Code 17918 Road/Airfield Construction Training Site

EQUIPMENT: Engineer earthmoving equipment, Combat engineer breaching equipment, Demolition kit, Minefield Marking kit, Communications assets, PPE.

MATERIAL: Engineer stakes, rope, sledge hammer, stake driver, gloves.

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event. In addition, mission and situation will dictate which breaching charge will be used.

CAB-MOBL-4002: Conduct hasty/in-stride breach

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct a hasty/in-stride breach (mounted and dismounted) to quickly overcome unexpected or lightly defended tactical obstacles in order to maintain the momentum of the attack by denying the enemy time to mass forces at the breach sites.

<u>CONDITION</u>: Provided a tactical scenario, mission, a minefield (or other suitable obstacle), and a task-organized breach force with personnel, equipment, and demolitions or explosives in the assault position.

STANDARD: To reduce, proof, and mark lane through a minefield/obstacle in accordance with the mission, and the commander's intent.

EVENT COMPONENTS:

- 1. Verify obstacle intelligence, as required.
- 2. Coordinate suppression of enemy over-watching obstacle.
- 3. Coordinate obscuration of enemy over-watching obstacle.
- 4. Coordinate security for breach lane.
- 5. Coordinate breach with element acting as assault force and support force.
- 6. Verify suppression/obscuration effects.
- 7. Employ deception plan, as required.
- 8. Move to breach site.
- 9. Reduce lane through obstacle.
- 10. Conduct gap crossing, as required.
- 11. Conduct earthmoving operations, as required.
- 12. Proof lane through obstacle.
- 13. Mark lane through obstacle.
- 14. Coordinate passage of assault force through breached lane.
- 15. Turnover lane to designated forces.
- 16. Submit required reports.
- 17. Reconstitute the breach force.

CHAINED EVENTS:

CAB-HEOP-3001	CAB-HEOP-3002	CAB-MOBL-3001
CAB-MOBL-3002	CAB-MOBL-3003	CAB-MOBL-3004
CAB-MOBL-3005	CAB-RECN-3001	

REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCWP 3-17.3 MAGTF Breaching Operations
- 5. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
AX11 Cartridge, 9mm Spotting Rifle MK212	24 rounds per squad
HX05 Rocket, 83mm Assault MK3 Mod 0 (SMAW	4 rockets per squad
J143 Rocket Motor, 5-inch MK22 Mod 4	4 rockets per squad
M028 Demolition Kit, Bangalore Torpedo M1	1 cases per squad
M032 Charge, Demolition Block TNT 1-Pound	10 charges per squad

M130 Cap, Blasting Electric M6
M131 Cap, Blasting Non-Electric M7
M456 Cord, Detonating PETN Type I Class E
M670 Fuse, Blasting Time M700
M757 Charge, Assembly Demolition M183 Com
M913 Charge, Demolition High Explosive Li
M914 Charge, Demolition Inert Linear M68A
MLO3 Firing Device, Demolition Multi-Purp
MN08 Igniter, Time Blasting Fuse with Sho
MN79 Mine, Antipersonnel Obstacle Breachi
M100 Dlasting caps per squad
1500 FT per squad
2 charges per squad
2 charges per squad
2 charges per squad
2 primers per squad
35 igniters per squad
35 igniters per squad

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces Facility Code 17830 Light Demolition Range Facility Code 17918 Road/Airfield Construction Training Site

EQUIPMENT: Engineer earthmoving equipment, Combat engineer breaching equipment, Demolition kit, Minefield Marking kit, Communications assets, PPE.

MATERIAL: Engineer stakes, rope, sledge hammer, stake driver, gloves.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event. In addition, mission and situation will dictate which breaching charge will be used.

CAB-MOBL-4003: Conduct assault breach

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct an assault breach (mounted and dismounted) to penetrate enemy protective obstacles and continue the assault through an objective.

<u>CONDITION</u>: Provided a tactical scenario, mission, a wire obstacle, minefield or other suitable obstacle, and an element designated as a breach force within the assault forces and references.

STANDARD: To reduce, proof, and mark a lane through protective obstacle in accordance with the mission, commander's intent and unit SOP.

- 1. Coordinate with supporting elements, as required.
- 2. Verify suppression/obscuration effects.
- 3. Move to breach site.

- 4. Reduce lane through obstacle.
- 5. Proof lane through obstacle.
- 6. Mark lane through obstacle.
- 7. Coordinate passage of assault force through breached lane.
- 8. Widen breach lane, as required.
- 9. Submit required reports.

CHAINED EVENTS:

CAB-HEOP-3001	CAB-HEOP-3002	CAB-MOBL-3001
CAB-MOBL-3002	CAB-MOBL-3003	CAB-MOBL-3004
CAB-MOBL-3005		

REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCWP 3-17.3 MAGTF Breaching Operations
- 5. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

Quantity
24 rounds per squad
4 rockets per squad
4 rockets per squad
1 cases per squad
10 charges per squad
10 blasting caps per squad
20 blasting caps per squad
1500 FT per squad
500 FT per squad
2 charges per squad
1 charges per squad
2 charges per squad
2 primers per squad
35 igniters per squad
1 mines per squad

RANGE/TRAINING AREA:

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Facility Code 17410 Maneuver/Training Area, Light Forces
Facility Code 17420 Maneuver/Training Area, Heavy Forces
Facility Code 17830 Light Demolition Range
Facility Code 17918 Road/Airfield Construction Training Site
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EQUIPMENT: Engineer Earthmoving equipment, Combat Engineer Breaching equipment, Demolition kit, Firing device (M34, MK 152 Remote firing device, CD450-4J), Blasting machine, AN/PRC 119, Kevlar helmet, flak vest, hearing protection, Motor Transport equipment, mine detectors, Command and Control equipment.

MATERIAL: Engineer stakes, rope, sledge hammer, stake driver, gloves, POLs
requirement, Hand Emplaced Mine Marking System (HEMMS) kit, HazMat
containment kit.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event. In addition, mission and situation will dictate which breaching charge will be used.

CAB-MOBL-4004: Conduct covert breach

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Conduct a covert (non-explosive) (mounted and dismounted) breach under the cover of darkness/periods of limited visibility that does not alert enemy forces.

<u>CONDITION</u>: Provided a tactical scenario, mission, a minefield (or other suitable obstacle), and a task-organized breach force with personnel, equipment, and demolitions or explosives in their assault position.

STANDARD: To reduce, proof, and mark a lane through a minefield/obstacle, without alerting enemy forces in accordance with the mission and commander's intent.

EVENT COMPONENTS:

- 1. Verify obstacle intelligence, as required.
- 2. Coordinate suppressive fires and obscuration of enemy over-watching obstacle if breach is discovered.
- 3. Coordinate security for breach lane.
- 4. Coordinate breach with element acting as assault force and support force.
- 5. Employ deception plan, as required.
- 6. Covertly move to breach site.
- 7. Covertly reduce lane through obstacle.
- 8. Covertly proof lane through obstacle.
- 9. Covertly mark lane through obstacle.
- 10. Conduct hasty breach, as required.
- 11. Conduct deliberate breach, as required.
- 12. Coordinate passage of assault force through breached lane.
- 13. Submit required reports.
- 14. Reconstitute the breach force.

CHAINED EVENTS:

CAB-HEOP-3002	CAB-MOBL-3002	CAB-MOBL-3003
CAB-MOBL-3004	CAB-MOBL-3005	CAB-MOBL-4001
CAB-MOBL-4002		

REFERENCES:

- 1. MCRP 3-17.2D Explosive Hazard Operations
- 2. MCWP 3-1 Ground Combat Operations

- 3. MCWP 3-17.3 MAGTF Breaching Operations
- 4. MCWP 3-17.8 Combined Arms Mobility Operations
- 5. TM 08982A-14&P/2B Operator's Manual for MK 155 Mine Clearance System

SUPPORT REQUIREMENTS:

ORDNANCE:

Quantity
1 cases per squad
10 charges per squad
10 blasting caps per squad
20 blasting caps per squad
1500 FT per squad
500 FT per squad
2 charges per squad
2 primers per squad
35 igniters per squad

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces Facility Code 17830 Light Demolition Range Facility Code 17918 Road/Airfield Construction Training Site

EQUIPMENT: Engineer Earthmoving equipment, Combat Engineer Breaching equipment, Demolition kit, Firing device (M34, MK 152 Remote firing device, CD450-4J), Blasting machine, AN/PRC 119, Kevlar helmet, flak vest, hearing protection.

MATERIAL: Engineer stakes, rope, sledge hammer, stake driver, gloves.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event. In addition, mission and situation will dictate which breaching charge will be used.

CAB-MOBL-4005: Conduct dismounted route sweep operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 3 months

<u>DESCRIPTION</u>: Conduct dismounted route sweep operations to detect, investigate, mark, report, and reduce Explosive Hazards (EH) and other obstacles along a defined route to enable assured mobility.

CONDITION: Given a mission, commander's intent, a permissive or semipermissive environment, a route to be swept, task organized personnel and

equipment, and references.

STANDARD: To ensure all explosive/non-explosive hazards are detected, identified, reduced, proofed, and/or marked to provide sufficient mobility to support the concept of operations and commander's intent integrating all available resources.

EVENT COMPONENTS:

- 1. Analyze search route intelligence.
- 2. Coordinate with supported unit for security, as required.
- 3. Coordinate with supporting units.
- 4. Move to search area.
- 5. Detect obstacles along route.
- 6. Alternate detector operators as required to prevent fatigue.
- 7. Identify explosive components of obstacle(s).
- 8. Mark obstacle(s), as required.
- 9. Reduce obstacle, as required.
- 10. Verify obstacle reduction.
- 11. Coordinate explosive ordnance disposal activities, as required.
- 12. Coordinate with other SME personnel, as required.
- 13. Submit required reports.

CHAINED EVENTS:

CAB-MOBL-3004	CAB-MOBL-3005	CAB-MOBL-3008
CAB-MOBL-3009	CAB-MOBL-4011	

REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 3-13.2 MINE WARFARE
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
M032 Charge, Demolition Block TNT 1-Pound	10 charges per squad
M130 Cap, Blasting Electric M6	30 blasting caps per squad
M456 Cord, Detonating PETN Type I Class E	2000 FT per squad
M670 Fuse, Blasting Time M700	250 FT per squad
M757 Charge, Assembly Demolition M183 Com	2 cases per squad
MN08 Igniter, Time Blasting Fuse with Sho	25 igniters per squad
MN88 Cap, Blasting, 500 ft mini-tube M21	5 blasting caps per squad
MN90 Cap, Blasting, 1000 ft mini-tube M23	10 blasting caps per squad

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: Kevlar helmet, flak vest, AN/PRC 119, mine detectors, probe, compass, protractor, Hand Emplaced Mine Marking System (HEMMS) kit, sickle stick, DA FORM 1355-1-R.

<u>MATERIAL</u>: Engineer tape, concertina wire, barbed wire, engineer stakes, tie wire, mine signs, sandbags.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CAB-MOBL-4006: Conduct security for clearance operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Conduct security for clearance operations to provide sweep team freedom of action.

CONDITION: Provided a mission, designated area with known/potential/suspected obstacle(s), personnel, equipment, intelligence support and references.

STANDARD: To allow the sweep team freedom of maneuver while conducting sweeping operations in accordance with the concept of operations.

EVENT COMPONENTS:

- 1. Analyze intelligence for designated area.
- 2. Coordinate with supported unit, as required.
- 3. Coordinate with supporting units, as required.
- 4. Move to area to be cleared.
- 5. Coordinate w/clearance unit on site, as required.
- 6. Establish area clearance security measures, as required.
- 7. Visually identify other potential hazards within area.
- 8. Visually identify potential suspects/civilians in area.
- 9. Control/cordon all movement going into area, as required.
- 10. Maintain communications w/clearance/sweep unit.
- 11. Submit required reports.

CHAINED EVENTS:

CAB-MOBL-3001	CAB-MOBL-3008	CAB-MOBL-3009
CAB-MOBL-3013		

RELATED EVENTS:

1302-MOBL-1003	1302-MOBL-1004	1302-MOBL-1005
1302-MOBL-1009	1371-MOBL-1006	

- 1. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17B Engineer Forms and Reports
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17730 Fire and Movement Range

EQUIPMENT: Combat engineer equipment, organic weapons, command and control assets.

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

CAB-MOBL-4007: Detect obstacles during clearance operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Detect obstacles during clearance operations in order to provide the MAGTF assured mobility.

CONDITION: Provided a mission, designated area with known/potential/suspected obstacle(s), personnel, equipment, intelligence support and references.

<u>STANDARD</u>: To ensure all obstacles and explosive hazards are detected, identified, and marked for reduction or bypass in accordance with the concept of operations.

- 1. Analyze intelligence for designated area.
- 2. Coordinate with supported unit, as required.
- 3. Coordinate with supporting units, as required.
- 4. Move to area to be cleared.
- 5. Confirm area clearance controls.
- 6. Visually identify all non-explosive obstacles within area.
- 7. Visually detect explosive hazards within area if possible.
- 8. Operate dismounted handheld detectors, as required.
- 9. Operate mounted detectors, as required.
- 10. Operate other detection equipment, as required.
- 11. Alternate detector operators to prevent fatigue, as required.
- 12. Mark obstacles for reduction, as required.
- 13. Submit required reports.

CAB-MOBL-3006	CAB-MOBL-3007	CAB-MOBL-3012
RELATED EVENTS:		
1302-MOBL-1002	1302-MOBL-1003	1302-MOBL-1004
1302-MOBL-1009	1345-HEOP-1006	1345-HEOP-2009
1345-MANT-1001	1345-MANT-2001	1371-MOBL-2018
1371-MOBL-2021	1371-MOBL-2022	1371-MOBL-2024
1371-MOBL-2025	1371-MOBL-2026	1371-MOBL-2027

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.4 Engineer Reconnaissance
- 8. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17918 Road/Airfield Construction Training Site

EQUIPMENT: Motor Transportation, Engineer equipment, Route clearance assets, Command and Control assets.

CAB-MOBL-4008: Breach obstacles for clearance operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 12 months

<u>DESCRIPTION</u>: Breach obstacles during clearance operations to ensure the safe passage of combat, CS, and CSS organizations.

CONDITION: Provided a mission, designated area with known/potential/suspected obstacle(s), personnel, engineer tools and equipment, intelligence support, demolition tools, explosives, and references.

<u>STANDARD</u>: To ensure all explosives and non-explosive hazards, are removed or destroyed in accordance with the concept of operations and commander's intent.

- 1. Analyze intelligence for designated area.
- 2. Coordinate with supported unit as required
- 3. Coordinate with supporting units as required.
- 4. Move to area to be cleared.

- 5. Confirm area clearance controls.
- 6. Visually identify all non-explosive obstacles within area.
- 7. Visually detect mines, boobytraps, and unexploded ordnance within area if possible.
- 8. Operate mounted mine detectors, as required.
- 9. Operated other detection equipment, as required.
- 10. Conduct earthmoving operations to detect obstacles, as required.
- 11. Alternate detector operators as required to prevent fatigue.
- 12. Mark obstacles for reduction, as required.
- 13. Destroy obstacle, as required.
- 14. Verify obstacle destruction.
- 15. Submit required reports.

CHAINED	EVENTS:
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CAB-MOBL-3006	CAB-MOBL-3007
1302-MOBL-1003	1302-MOBL-1004
1302-MOBL-1010	1345-HEOP-1006
1345-MANT-1001	1345-MANT-2001
1371-MOBL-1002	1371-MOBL-1003
1371-MOBL-2019	1371-MOBL-2020
1371-MOBL-2022	1371-MOBL-2023
1371-MOBL-2025	1371-MOBL-2026
	1302-MOBL-1003 1302-MOBL-1010 1345-MANT-1001 1371-MOBL-1002 1371-MOBL-2019 1371-MOBL-2022

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.3 MAGTF Breaching Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
J143 Rocket Motor, 5-inch MK22 Mod 4	3 rockets per squad
M028 Demolition Kit, Bangalore Torpedo M1	1 cases per squad
M032 Charge, Demolition Block TNT 1-Pound	10 charges per squad
M130 Cap, Blasting Electric M6	10 blasting caps per squad
M131 Cap, Blasting Non-Electric M7	10 blasting caps per squad
M456 Cord, Detonating PETN Type I Class E	1500 FT per squad
M670 Fuse, Blasting Time M700	500 FT per squad
M757 Charge, Assembly Demolition M183 Com	2 cases per squad
M913 Charge, Demolition High Explosive Li	2 charges per squad
M914 Charge, Demolition Inert Linear M68A	1 charges per squad
ML03 Firing Device, Demolition Multi-Purp	2 detonators per squad

MN08 Igniter, Time Blasting Fuse with Sho 35 igniters per squad MN52 MK154 Mod 0 10 detonators per squad MN79 Mine, Antipersonnel Obstacle Breachi 1 mines per squad

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer detection equipment, Engineer Material Handling Equipment, Combat engineer breaching equipment.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event. In addition, mission and situation will dictate which breaching charge will be used.

CAB-MOBL-4009: Conduct limited route improvement

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Conduct limited route improvement to maintain the route and to prevent/limit explosive hazard concealment opportunities for the enemy.

CONDITION: Given a tactical situation, an operations order, commander's intent, a route to be improved, task organized personnel and equipment, engineer reconnaissance reports, and references.

STANDARD: To maintain the route in support of maneuver operations in accordance with the concept of operations and commander's intent.

- 1. Analyze engineer reconnaissance report(s).
- 2. Coordinate with route clearance mission commander (for repair materials, logistics, security, etc.).
- 3. Confirm improvement requirements.
- 4. Move to improvement area.
- 5. Operate as part of route clearance team.
- 6. Visually detect explosive and other hazards, as required.
- 7. Identify surface repairs, as required.
- 8. Operate engineer equipment, as required.
- 9. Remove obstructions (i.e., rubble/debris, vegetation, trash), as required.
- 10. Remove upheaval to required specifications.
- 11. Remove berms, as required.
- 12. Place additional fill/ stabilization/ reinforcement materials, as required.
- 13. Identify drainage structure repairs, as required.
- 14. Conduct culvert denial activities, as required.
- 15. Submit required reports.

PREREQUISITE EVENTS: CAB-RECN-4005

CHAINED EVENTS:		
CAB-HEOP-3001	CAB-HEOP-3002	CAB-MOBL-3006
CAB-MOBL-3007	CAB-MOBL-3008	CAB-MOBL-3009
CAB-MOBL-3012		
RELATED EVENTS:		
1302-MOBL-1002	1302-MOBL-1003	1302-MOBL-1004
1302-MOBL-1009	1302-MOBL-1010	1371-MOBL-2020
1371-MOBL-2021	1371-MOBL-2022	1371-MOBL-2023
1371-MOBL-2024	1371-MOBL-2025	1371-MOBL-2026
1371-MOBL-2027		

REFERENCES:

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. GTA 5-7-13 Bridge Classification Booklet
- 3. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 4. MCRP 3-17.2D Explosive Hazard Operations
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17918 Road/Airfield Construction Training Site

EQUIPMENT: Combat engineer equipment.

<u>CAB-MOBL-4010</u>: Install a rope bridge

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Install a rope bridge to allow mobility of forces over gaps (wet or dry).

CONDITION: Provided a mission, commander's intent, wet or dry gap crossing site, rigging components, tools, task organized personnel, and references.

STANDARD: To meet design specifications, concept of operations and commander's intent, while observing safety precautions during assembly and installation.

- 1. Review references/directives/specifications.
- 2. Review gap specific engineer reconnaissance information.

- 3. Verify gap physical characteristics.
- 4. Brief/instruct the squad on the mission/assignment.
- 5. Construct/ emplace near shore anchor.
- 6. Construct initial rope bridge on near shore.
- 7. Construct far shore anchor.
- 8. Position initial bridge.
- 9. Upgrade bridge to desired characteristics.
- 10. Submit required reports.

CHAINED EVENTS: CAB-RECN-3001

RELATED EVENTS:

1371-EOPS-1005 1371-EOPS-2009 1371-RECN-1001

REFERENCES:

- 1. MCRP 3-17.7J Rigging Techniques, Procedures, and Applications
- 2. MCRP 3-17A Engineering Field Data
- 3. MCRP 3-17B Engineer Forms and Reports

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Combat engineer equipment.

CAB-MOBL-4011: Employ demolitions in support of mobility operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Employ demolitions in support of mobility operations to reduce/destroy obstacles (explosive and non-explosive) that present mobility impediments to Operating forces on routes.

 $\underline{\text{CONDITION}}$: Provided a mission order, task organized personnel and equipment, Class V, personal protective equipment (PPE), and references.

STANDARD: To reduce mobility obstacles on designated routes and ensure mobility in accordance in the commander's intent, concept of operations and mission requirement.

- 1. Review the mission.
- 2. Coordinate with supporting unit(s).
- 3. Conduct final coordination with supported unit (location, requirements, security, etc.), as required.
- 4. Prepare equipment and materials for operation.
- 5. Move to obstacle sites(s).
- 6. Setup security.
- 7. Prepare charges.
- 8. Place charges.

- 9. Reduce obstacle(s).
- 10. Proof obstacle(s).
- 11. Clear site with support equipment, as required.
- 12. Reconstitute obstacle clearing force.
- 13. Submit required reports.

CHAINED EVENTS:

CAB-HEOP-3001 CAB-HEOP-3002 CAB-MOBL-3010

REFERENCES:

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

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DODIC	Quantity
$\overline{\text{M023}}$ Charge, Demolition Block M112 1-1/4	30 charges per squad
M032 Charge, Demolition Block TNT 1-Pound	30 charges per squad
M130 Cap, Blasting Electric M6	10 blasting caps per squad
M131 Cap, Blasting Non-Electric M7	20 blasting caps per squad
M456 Cord, Detonating PETN Type I Class E	2000 FT per squad
M591 Dynamite, Military M1	20 charges per squad
M670 Fuse, Blasting Time M700	1000 FT per squad
ML03 Firing Device, Demolition Multi-Purp	10 detonators per squad
MN08 Igniter, Time Blasting Fuse with Sho	30 igniters per squad
MN52 MK154 Mod 0	10 detonators per squad

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: Engineer Material Handling equipment, Combat engineer Demolitions kit

<u>UNITS/PERSONNEL</u>: Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Range Safety officer, Corpsman

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event. In addition, mission and situation will dictate which breaching charge will be used.

CAB-PINF-4001: Fight as provisional infantry

SUPPORTED MCT(S):

MCT 1.1.2 MCT 1.4.1 MCT 1.4.2

MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Provide provisional infantry to participate in offensive operations such as attacks, raids, movement to contact, etc. Defensive operations that include withdrawal, patrolling, check point ops, convoy ops, and employment of organic weapons. Additional responsibilities may include operations other than war (civil disturbance, TRAP, cordon and search) and MOUT (attack, defend, patrol, clear a building, vehicle check point).

CONDITION: Given a requirement, commander's intent and references.

STANDARD: To augment supported unit or conduct offensive and defensive operations in accordance with commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Conduct planning.
- 2. Task organize.
- 3. Issue orders.
- 4. Conduct inspections, rehearsals, and preparations.
- 5. Elements employ appropriate formations and tactics.
- 6. Conduct final preparations.
- 7. Use, coordinate, and observe fires.
- 8. Employ supporting arms, as required.
- 9. Establish redundant communications.
- 10. Treat and evacuate casualties, as required.
- 11. Process detainees, as required.
- 12. Send and receive required reports.

CHAINED EVENTS:

CAB-MOBL-3001 CAB-MOBL-3008 CAB-MOBL-3009

REFERENCES:

- 1. MCDP 1 Warfighting
- 2. MCDP 1-3 Tactics
- 3. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 4. MCRP 3-02G First Aid
- 5. MCWP 3-11.2 Marine Rifle Squad

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17413 Field Training Area Facility Code 17420 Maneuver/Training Area, Heavy Forces

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Type/quantities of ammunition, explosives and pyrotechnics are documented with the 3000-Level Events Chained to this

event.

CAB-RECN-4001: Conduct zone reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: To reconnoiter a delineated area to compile pertinent information and to clarify the threat situation, gather obstacle/terrain intelligence, zone infrastructure.

CONDITION: Given a mission, commander's intent, task organized personnel and equipment, and references.

<u>STANDARD</u>: To gather all relevant engineer data, and produce an engineer estimate (or designated products or guidance) in accordance with unit SOPs, the concept of operations and the commander's intent.

EVENT COMPONENTS:

- 1. Review mission.
- 2. Coordinate support requirements and location(s).
- Conduct final coordination with supported unit (location, requirements, security, etc.).
- 4. Conduct final coordination with supporting units (logistics, etc.).
- 5. Conduct final rehearsals and immediate action drills, as required.
- 6. Reconnoiter for enemy threat, as required.
- 7. Reconnoiter routes, as required.
- 8. Reconnoiter infrastructures, as required.
- 9. Reconnoiter for obstacles, as required.
- 10. Submit required reports.

CHAINED EVENTS:

CAB-RECN-3001	CAB-RECN-3002	CAB-RECN-3004
CAB-RECN-3005	CAB-RECN-3006	CAB-RECN-3007
CAB-RECN-3008		

REFERENCES:

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. GTA 5-2-5 Engineer Reconnaissance
- 3. GTA 5-7-13 Bridge Classification Booklet
- 4. JP 3-34 Joint Engineer Operations
- 5. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17730 Fire and Movement Range

EQUIPMENT: Combat engineer equipment.

CAB-RECN-4002: Conduct route reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: To reconnoiter specific routes to compile pertinent information and to clarify the threat situation, gather obstacle/terrain intelligence, infrastructure

CONDITION: Given a mission, commander's intent, task organized personnel and equipment, and references.

<u>STANDARD</u>: To gather all relevant engineer data, and produce an engineer estimate (or designated products or guidance) in accordance with unit SOPs, the concept of operations and the commander's intent.

EVENT COMPONENTS:

- 1. Review mission.
- 2. Issue the order.
- 3. Coordinate support requirements.
- 4. Conduct final coordination with supported unit (location, requirements and security).
- 5. Conduct final coordination with supporting units, as required.
- 6. Conduct final rehearsals and immediate action drills, as required.
- 7. Reconnoiter roads/routes, as required.
- 8. Reconnoiter tunnels, as required.
- 9. Reconnoiter bridges, as required.
- 10. Reconnoiter for fords/ferries, as required.
- 11. Reconnoiter for landing zones, as required.
- 12. Submit required reports.

CHAINED EVENTS:

CAB-RECN-3001 CAB-RECN-3002 CAB-RECN-3004 CAB-RECN-3006 CAB-RECN-3007 CAB-RECN-3008

REFERENCES:

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. GTA 5-7-13 Bridge Classification Booklet
- 3. JP 3-34 Joint Engineer Operations
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.4 Engineer Reconnaissance
- 8. MCWP 3-17.5 Combined Arms Countermobility Operations

SUPPORT REQUIREMENTS:

EQUIPMENT: Combat engineer equipment

CAB-RECN-4003: Conduct area reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: To reconnoiter an area to compile pertinent information and to clarify the threat situation, gather obstacle/terrain intelligence, area infrastructure in established lateral boundaries.

CONDITION: Given a mission, commander's intent, task organized personnel and equipment, and references.

STANDARD: To gather all relevant data, and produce an engineer estimate (or designated products or guidance) in accordance with unit SOPs, the concept of operations and the commander's intent.

EVENT COMPONENTS:

- 1. Review mission.
- 2. Issue the order.
- 3. Coordinate support requirements.
- 4. Conduct final coordination with supported unit (location, requirements, security, etc.).
- 5. Conduct final coordination with supporting units, as required.
- 6. Conduct final rehearsals and immediate action drills, as required.
- 7. Reconnoiter roads/routes to specified area, as required.
- 8. Reconnoiter infrastructure/facilities in specified area, as required.
- 9. Reconnoiter obstacles in specified area, as required.
- 10. Reconnoiter structures in specified area, as required.
- 11. Submit required reports.

CHAINED EVENTS:

CAB-RECN-3001	CAB-RECN-3002	CAB-RECN-3004
CAB-RECN-3005	CAB-RECN-3006	CAB-RECN-3007
CAB-RECN-3008		

REFERENCES:

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. GTA 5-2-5 Engineer Reconnaissance
- 3. GTA 5-7-13 Bridge Classification Booklet
- 4. JP 3-34 Joint Engineer Operations
- 5. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 9. MCWP 3-17 Engineering Operations
- 10. MCWP 3-17.4 Engineer Reconnaissance
- 11. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces

EQUIPMENT: Combat engineer equipment

CAB-RECN-4004: Conduct cache sweep

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Conduct cache sweep operations in order to detect, identify and secure materials (documents, discs, tapes, weapons, explosives, ammunition, chemical materials, bombs, electronic equipment, etc.). Appropriate safety and evidentiary preservation measures should be employed during cache sweeps.

<u>CONDITION</u>: Provided a mission, designated area/building to search for known, potential, or suspected materials that may be used against friendly forces or be of intelligence value.

STANDARD: To detect, identify, and secure materials discovered during the course of the search in accordance with the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Analyze search area intelligence.
- 2. Tasks organize.
- 3. Coordinate with supported unit.
- 4. Coordinate with supporting units.
- 5. Detect cache within search area.
- 6. Identify items within cache(s).
- 7. Mark cache(s), as required.
- 8. Destroy captured enemy ammunition, as required.
- 9. Verify cache destruction.
- 10. Coordinate explosive ordnance disposal activities, as required.
- 11. Coordinate with other specialist personnel, as required.
- 12. Document/preserve evidence, as required.
- 13. Submit required reports.

CHAINED EVENTS:

CAB-DEMO-3001 CAB-RECN-3003

RELATED EVENTS:

1302-DEMO-1004	1302-MOBL-1002	1302-MOBL-1003
1302-MOBL-1009	1371-MOBL-1002	1371-MOBL-1003
1371-MOBL-2018	1371-MOBL-2020	1371-MOBL-2021
1371-MOBL-2022		

REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-1 Ground Combat Operations
- 6. MCWP 3-17 Engineering Operations

- 7. MCWP 3-17.2 MAGTF Explosive Ordnance Disposal
- 8. MCWP 3-17.4 Engineer Reconnaissance

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
K143 Mine, Antipersonnel M18A1 with M57 F	1 mines per squad
L495 Flare, Surface Trip M49 Series	4 flares per squad
L598 Simulator, Explosive Booby Trap Flas	4 Simulator per squad
M032 Charge, Demolition Block TNT 1-Pound	10 charges per squad
M039 Charge, Demolition Cratering 40-Poun	1 charges per squad
M130 Cap, Blasting Electric M6	10 blasting caps per squad
M131 Cap, Blasting Non-Electric M7	20 blasting caps per squad
M420 Charge, Demolition Shaped M2 Series	1 charges per squad
M421 Charge, Demolition Shaped M3 Series	1 charges per squad
M456 Cord, Detonating PETN Type I Class E	1500 FT per squad
M591 Dynamite, Military M1	10 charges per squad
M670 Fuse, Blasting Time M700	500 FT per squad
M757 Charge, Assembly Demolition M183 Com	2 charges per squad
ML03 Firing Device, Demolition Multi-Purp	2 igniters per squad
MN08 Igniter, Time Blasting Fuse with Sho	35 igniters per squad

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17413 Field Training Area Facility Code 17730 Fire and Movement Range Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer tools and kits, Combat Engineer detection equipment.

<u>UNITS/PERSONNEL</u>: Explosive Ordnance Personnel, Weapons Intelligence team, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event.

CAB-RECN-4005: Conduct engineer reconnaissance

SUPPORTED MCT(S):

MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Conduct engineer reconnaissance to compile pertinent engineer information on all aspects pertaining to mobility, counter mobility, survivability, and general engineering while conducting a zone, area, or route reconnaissance that has any engineer implications.

CONDITION: Given a mission, commander's intent, task organized personnel and equipment, and references.

STANDARD: To gather all relevant engineer data, and produce an engineer estimate (or designated products or guidance) in accordance with unit SOPs, the concept of operations and the commander's intent.

EVENT COMPONENTS:

- 1. Review mission.
- 2. Coordinate support requirements and location(s).
- Conduct final coordination with supported unit (location, requirements, security, etc.).
- 4. Conduct final coordination with supporting units (logistics, etc.).
- 5. Conduct final rehearsals and immediate action drills, as required.
- 6. Reconnoiter for engineer equipment, as required.
- 7. Reconnoiter for facilities, as required.
- 8. Reconnoiter structures, as required.
- 9. Reconnoiter for trafficability on routes, as required.
- 10. Reconnoiter for obstacles, as required.
- 11. Reconnoiter for water points, as required.
- 12. Reconnoiter landing zones, as required.
- 13. Reconnoiter for bivouac sites, as required.
- 14. Submit required reports.

CHAINED EVENTS:

 CAB-RECN-3001
 CAB-RECN-3002
 CAB-RECN-3005

 CAB-RECN-3006
 CAB-RECN-3007
 CAB-RECN-3008

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. GTA 05-07-013 Bridge Classification Card (2006)
- 4. GTA 5-2-5 Engineer Reconnaissance
- 5. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 9. MCWP 3-17 Engineering Operations
- 10. MCWP 3-17.4 Engineer Reconnaissance
- 11. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17730 Fire and Movement Range

EQUIPMENT: Combat Engineer equipment.

CAB-RECN-4006: Conduct site survey

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Reconnoitering a site or area as part of survey, liaison and reconnaissance party to allow critical planning of specific construction and or operations in support of the MAGTF.

CONDITION: Provided a mission order, task organized personnel and equipment, and references.

STANDARD: To allow for critical planning of facilities and projects in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Review the mission.
- 2. Coordinate with supporting unit, as required.
- 3. Conduct final coordination with supported unit (location, requirements, security, etc.), as required.
- 4. Move to site or area.
- 5. Gather critical information, as required.
- 6. Make liaisons, as required.
- 7. Develop draft plans and schematics, as required.
- 8. Plan resources, as required.
- 9. Submit required reports.

CHAINED EVENTS: CAB-RECN-3005

RELATED EVENTS:

KEHAIED EVERIED.		
1302-HORZ-1001	1302-PLAN-1002	1302-PLAN-2004
1302-VERT-1001	1361-SRVY-1001	1361-SRVY-1002
1361-SRVY-1003	1361-SRVY-1004	1361-SRVY-1005
1361-SRVY-1006	1361-SRVY-1007	1361-SRVY-1008
1361-SRVY-1009	1361-SRVY-1010	1361-SRVY-1011
1361-SRVY-1012	1361-SRVY-2002	1361-XENG-2001
1361-XENG-2002	1371-PLAN-2002	

REFERENCES:

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. MCRP 3-17.7F Project Management
- 3. MCRP 3-17A Engineering Field Data
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance

SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer survey equipment

UNITS/PERSONNEL: Engineer surveyor 1361

<u>CAB-SURV-4001</u>: Harden existing structure

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 12 months

DESCRIPTION: Harden existing structure in order to reduce the vulnerability of personnel, equipment, weapons, and supplies to enemy fire and as a means to enhance force protection.

<u>CONDITION</u>: Provided a mission, in an urban environment, commander's intent, reconnaissance reports, and survivability plan, a task organization of personnel and equipment, and references.

STANDARD: To meet the mission requirements in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Review mission.
- 2. Review engineer reconnaissance and survey reports.
- 3. Coordinate with supported unit for specific position requirements.
- 4. Coordinate resources for project.
- 5. Conduct site preparation.
- 6. Construct perimeter security, as required.
- 7. Shore walls/ floors/ roofs, as required.
- 8. Remove/ reinforce windows, as required.
- 9. Compartmentalize interior of structure, as required.
- 10. Emplace prefabricated barrier(s), as required.
- 11. Construct earth filled barrier/structure(s), as required.
- 12. Conduct earthmoving operations, as required.
- 13. Construct overhead cover, as required.
- 14. Construct shelter/bunker, as required.
- 15. Construct triggering screen, as required.
- 16. Provide tactical power, as required.
- 17. Submit required reports.

CHAINED EVENTS:

CAB-CMOB-3001	CAB-CMOB-3002	CAB-CMOB-3003
CAB-HEOP-3001	CAB-HEOP-3002	CAB-SURV-3001
CAB-SURV-3002	CAB-SURV-3003	CAB-SURV-3004
CAB-SURV-3005	CAB-SURV-3006	CAB-SURV-3007
CAB-SURV-3008	CAB-UTIL-3001	CAB-UTIL-3002
CAB-UTIL-3003	CAB-UTIL-3004	

RELATED EVENTS:

1302-EOPS-1001	1302-EOPS-1002	1302-EOPS-1003
1302-EOPS-1009	1302-RECN-1001	1302-SURV-1001
1371-EOPS-2005	1371-EOPS-2006	1371-EOPS-2007
1371-EOPS-2010	1371-EOPS-2011	1371-EOPS-2012
1371-HORZ-2004	1371-HORZ-2005	1371-RECN-1001
1371-RECN-2001	1371-RECN-2001	1371-SURV-1001
1371-SURV-2001	1371-SURV-2002	1371-VERT-1001
1371-VERT-1002	1371-VERT-1003	1371-VERT-1004
1371-VERT-1005	1371-VERT-2001	1371-VERT-2002

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration

- 3. FM 5-553 General Drafting
- 4. JP 3-15 Barriers, Obstacles, and Mine Warfare for Joint Operations
- 5. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 6. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 7. MCRP 3-17.7C Carpentry
- 8. MCRP 3-17.7D Concrete and Masonry
- 9. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 10. MCRP 3-17.7F Project Management
- 11. MCRP 3-17.7I Earthmoving Operations
- 12. MCRP 3-17.7L Explosives and Demolitions
- 13. MCRP 3-17A Engineering Field Data
- 14. MCRP 3-17B Engineer Forms and Reports
- 15. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 16. MCWP 3-13.2 MINE WARFARE
- 17. MCWP 3-17 Engineering Operations
- 18. MCWP 3-17.4 Engineer Reconnaissance
- 19. MCWP 3-17.6 Survivability
- 20. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer Material Handling Equipment, Engineer earthmoving equipment, Combat engineer tools & kits, Utilities equipment.

CAB-SURV-4002: Construct field fortifications

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Construct field fortifications that reduce the vulnerability of personnel, equipment, weapons, and supplies to enemy fire, increase effectiveness of friendly weapons, and as a means to enhance force protection.

CONDITION: Provided a mission, commander's intent, reconnaissance reports, a task organization of personnel and equipment, and references.

STANDARD: To meet mission requirements in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Review mission.
- 2. Review engineer reconnaissance and survey.
- Coordinate with supported unit for specific position placement and requirements.
- 4. Construct survivability positions, as required.
- 5. Construct wire obstacles, as required.
- 6. Construct field expedient obstacles, as required.
- 7. Construct/emplace barrier(s), as required.
- 8. Construct/emplace explosive obstacle(s), as required.

- 9. Conduct vertical construction, as required.
- 10. Harden existing structures, as required.
- 11. Conduct earthmoving operations, as required.
- 12. Provide tactical power, as required.
- 13. Submit required reports.

CHAINED EVENTS:

CAB-CMOB-3001	CAB-CMOB-3002	CAB-CMOB-3003
CAB-HEOP-3001	CAB-HEOP-3002	CAB-SURV-3002
CAB-SURV-3003	CAB-SURV-3004	CAB-SURV-3005
CAB-SURV-3008		

RELATED EVENTS:

RELATED EVENTS:		
1302-CMOB-1001	1302-CMOB-1003	1302-EOPS-1001
1302-EOPS-1002	1302-EOPS-1003	1302-EOPS-1009
1302-RECN-1001	1302-SURV-1001	1302-SURV-1002
1302-SURV-1003	1302-SURV-1005	1371-CMOB-1001
1371-CMOB-1002	1371-CMOB-1003	1371-CMOB-2001
1371-CMOB-2002	1371-CMOB-2003	1371-DEMO-1001
1371-EOPS-1001	1371-EOPS-2005	1371-EOPS-2006
1371-EOPS-2010	1371-EOPS-2011	1371-EOPS-2012
1371-HORZ-1001	1371-HORZ-1002	1371-HORZ-1003
1371-HORZ-2004	1371-HORZ-2005	1371-SURV-1001
1371-VERT-1001	1371-VERT-1002	1371-VERT-1003
1371-VERT-1004	1371-VERT-1005	

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance
- 7. MCWP 3-17.6 Survivability
- 8. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 9. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 10. MCWP 3-41.1 Rear Area Operations
- 11. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17420 Maneuver/Training Area, Heavy
Forces

EQUIPMENT: Engineer earthmoving equipment, Engineer Material Handling Equipment, Combat engineer tools and equipment, Utilities equipment.

MATERIAL: Map, Compass, Protractor, Overlay sheets, Reconnaissance
reports.

CAB-SURV-4003: Construct Vehicle Control Point (VCP)

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Construct Vehicle Control Point (VCP) to control, restrict and monitor movement of personnel and equipment and to gain information/data on suspected vehicles during military operations.

CONDITION: Provided a mission, commander's intent, intelligence reports, task organization of personnel and equipment, class IV supplies, and references.

STANDARD: To gain information and maintain control of vehicles, pedestrians, and materials in accordance with mission requirements and commander's intent.

EVENT COMPONENTS:

- 1. Review mission.
- 2. Review intelligence reports.
- 3. Coordinate with supported unit for specific position requirements.
- 4. Coordinate resources for project.
- 5. Coordinate security, as required.
- 6. Conduct site preparation and layout.
- 7. Construct survivability positions, as required.
- 8. Emplace prefabricated barrier(s), as required.
- 9. Construct wire obstacles, as required.
- 10. Construct expedient obstacles, as required.
- 11. Construct earth filled barrier/structure(s), as required.
- 12. Conduct earthmoving operations, as required.
- 13. Establish vehicle waiting area, as required.
- 14. Construct search lanes, as required.
- 15. Construct personnel search area(s), as required.
- 16. Construct/emplace signs, as required.
- 17. Provide tactical power, as required.
- 18. Submit required reports.

CHAINED EVENTS:

CAB-CMOB-3001	CAB-CMOB-3002	CAB-HEOP-3001
CAB-HEOP-3002	CAB-SURV-3001	CAB-SURV-3002
CAB-SURV-3003	CAB-SURV-3004	CAB-SURV-3005
CAB-SURV-3006	CAB-SURV-3007	CAB-SURV-3008
CAB-UTIL-3001	CAB-UTIL-3002	CAB-UTIL-3003
CAB-UTIL-3004		

RELATED EVENTS:

1302-CMOB-1001	1302-CMOB-1002	1302-CMOB-1003
1302-EOPS-1007	1302-EOPS-1009	1302-SURV-1001
1302-SURV-1002	1302-SURV-1003	1371-CMOB-1001
1371-CMOB-1002	1371-CMOB-1003	1371-CMOB-2001
1371-CMOB-2002	1371-DEMO-1001	1371-EOPS-2006
1371-EOPS-2007	1371-EOPS-2010	1371-EOPS-2011
1371-EOPS-2012	1371-SURV-1001	1371-VERT-1001
1371-VERT-1002	1371-VERT-1004	

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration

- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance
- 7. MCWP 3-17.6 Survivability
- 8. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 9. MCWP 3-41.1 Rear Area Operations
- 10. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer Material Handling Equipment, engineer earthmoving equipment, combat engineer tools, kits and utilities equipment.

MATERIAL: Class IV supplies.

CAB-SURV-4004: Construct Entry Access Point (EAP)

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Construct Entry Access Point to prevent unauthorized personnel into military facilities.

CONDITION: Provided a mission, commander's intent, intelligence reports, task organization of personnel and equipment, Class IV supplies, and references.

STANDARD: To control and monitor access of vehicles, pedestrians, and materials onto military facilities in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Review mission.
- 2. Review force protection requirements.
- 3. Coordinate resources for project.
- 4. Coordinate security, as required.
- 5. Conduct site preparation and layout.
- 6. Construct survivability positions, as required.
- 7. Emplace prefabricated barrier(s), as required.
- 8. Construct wire obstacles, as required.
- 9. Construct expedient obstacles, as required.
- 10. Construct earth filled barrier/structure(s), as required.
- 11. Conduct earthmoving operations, as required.
- 12. Establish vehicle turn-around area, as required.
- 13. Establish pedestrian lanes, as required.
- 14. Construct personnel search area(s), as required.
- 15. Construct/emplace signs, as required.
- 16. Provide tactical power, as required
- 17. Submit required reports.

CHAINED EVENTS:		
CAB-CMOB-3001	CAB-CMOB-3002	CAB-HEOP-3001
CAB-HEOP-3002	CAB-SURV-3001	CAB-SURV-3002
CAB-SURV-3003	CAB-SURV-3004	CAB-SURV-3005
CAB-SURV-3006	CAB-SURV-3007	CAB-SURV-3008
CAB-UTIL-3001	CAB-UTIL-3002	CAB-UTIL-3003
CAB-UTIL-3004		
RELATED EVENTS:		
1302-CMOB-1001	1302-CMOB-1002	1302-CMOB-1003
1302-EOPS-1007	1302-EOPS-1009	1302-SURV-1001
1302-SURV-1002	1302-SURV-1003	1371-CMOB-1001
1371-CMOB-1002	1371-CMOB-1003	1371-CMOB-2001
1371-CMOB-2003	1371-DEMO-1001	1371-EOPS-2006
1371-EOPS-2007	1371-EOPS-2010	1371-EOPS-2011
1371-EOPS-2012	1371-SURV-1001	1371-SURV-2001
1371-VERT-1001	1371-VERT-1002	1371-VERT-1004

REFERENCES:

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. MCRP 3-17.7L Explosives and Demolitions
- 3. MCRP 3-17A Engineering Field Data
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 8. MCWP 3-41.1 Rear Area Operations
- 9. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer Material Handling Equipment, Engineer Earthmoving equipment, Combat Engineer tools & kits.

MATERIAL: Class IV supplies.

CAB-SURV-4005: Construct earth filled barrier/structure

SUPPORTED MCT(S):

MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Construct earth filled barrier/structure in support of survivability of the force.

CONDITION: Provided a mission, commander's intent, reconnaissance reports, a task organization of personnel and equipment, and references.

STANDARD: That supports the mission requirements and concept of operations in accordance with the commander's intent.

EVENT COMPONENTS:

- 1. Review mission.
- 2. Review engineer reconnaissance and survey.
- 3. Coordinate with supported unit for specific placement and requirements.
- 4. Construct/emplace barrier(s), as required.
- 5. Conduct earthmoving operations, as required.
- 6. Submit required reports.

CHAINED EVENTS:

CAB-HEOP-3001 CAB-HEOP-3002

RELATED EVENTS:

1302-RECN-1001	1302-SURV-1001	1302-SURV-1002
1302-SURV-1003	1302-SURV-1004	1302-SURV-1005
1371-RECN-1001	1371-RECN-2001	1371-SURV-2001
1371-SURV-2002		

REFERENCES:

- 1. MCRP 3-17.7I Earthmoving Operations
- 2. MCRP 3-17A Engineering Field Data
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.4 Engineer Reconnaissance
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 7. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer Earthmoving equipment.

CAB-SURV-4006: Employ demolitions in support of survivability operations

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 12 months

DESCRIPTION: Employ demolitions in support of survivability operations to support the defense of friendly positions or clearance of natural/man-made obstacles for fields of fire to eliminate enemy cover and concealment.

CONDITION: Provided a mission order, task organized personnel and equipment, Class V, personal protective equipment (PPE), and references.

STANDARD: To enhance friendly survivability positions and fields of fire to defeat the enemy per the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Review the mission.
- 2. Coordinate with supporting unit(s).
- 3. Conduct final coordination with supported unit (location, requirements, security, etc.), as required.
- 4. Prepare personnel for mission requirements, as required.
- 5. Construct booby traps, as required.

- 6. Clear fields of fire, as required.
- 7. Place expedient explosive devices to support positions, as required.
- 8. Mark fortifications/explosive devices, as required.
- 9. Reconstitute force, as required.
- 10. Submit required reports.

CHAINED EVENTS: CAB-CMOB-3003

RELATED EVENTS:

1302-DEMO-1001	1302-DEMO-1002	1302-SURV-1001
1302-SURV-1003	1302-SURV-1005	1371-CMOB-2003
1371-DEMO-1001	1371-DEMO-2002	1371-EOPS-1002
1371-EOPS-1003	1371-EOPS-1004	1371-SURV-1001
1371-SURV-2001	1371-SURV-2002	

REFERENCES:

- 1. MCRP 3-17.2D Explosive Hazard Operations
- 2. MCRP 3-17.7L Explosives and Demolitions
- 3. MCRP 3-17A Engineering Field Data
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.6 Survivability

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
M023 Charge, Demolition Block M112 1-1/4	20 charges per squad
M032 Charge, Demolition Block TNT 1-Pound	20 charges per squad
M130 Cap, Blasting Electric M6	10 blasting caps per squad
M131 Cap, Blasting Non-Electric M7	20 blasting caps per squad
M456 Cord, Detonating PETN Type I Class E	2000 FT per squad
M591 Dynamite, Military M1	30 charges per squad
M670 Fuse, Blasting Time M700	500 FT per squad
ML03 Firing Device, Demolition Multi-Purp	10 detonators per squad
MN08 Igniter, Time Blasting Fuse with Sho	20 igniters per squad
MN52 MK154 Mod 0	10 detonators per squad

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: Engineer Material Handling equipment, Combat engineer Demolitions kit

UNITS/PERSONNEL: Range Safety Officer, Corpsman

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CAB-UTIL-4001: Provide tactical electrical power

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Plan and coordinate power generation/electrical distribution in accordance with the unit's mission statement.

CONDITION: With a utilities plan, required equipment and personnel.

STANDARD: In accordance with the operational order and commander's intent.

EVENT COMPONENTS:

- 1. Plan tactical power requirements.
- 2. Coordinate logistical support/requirements.
- Establish generator site(s).
- 4. Establish power distribution.
- 5. Maintain utilities equipment, as required.
- 6. Submit required reports.

CHAINED EVENTS:

CAB-MANT-3002	CAB-UTIL-3001	CAB-UTIL-3003
RELATED EVENTS:		
1169-ADMN-2002	1169-ADMN-2003	1169-ADMN-2021
1169-ADMN-2022	1169-XENG-2521	1169-XENG-2522
1169-XENG-2561	1169-XENG-2621	1169-XENG-2622
1169-XENG-2721	1169-XENG-2821	1169-XENG-2965
1169-XENG-2966		

REFERENCES:

- 1. FM 5-424 Theater of Operations Electrical Systems
- 2. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 3. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety

SUPPORT REQUIREMENTS:

EQUIPMENT: Utilities equipment, engineer Material Handling Equipment (MHE), Motor Transport equipment.

MATERIAL: POLs, HazMat Kits, spill containment kits, Fuel.

CAB-UTIL-4002: Provide potable water

SUPPORTED MCT(S): MCT 1.1.2

EVALUATION-CODED: NO **SUSTAINMENT INTERVAL:** 6 months

<u>DESCRIPTION</u>: Produce, store, and distribute potable water in order to meet mission requirements.

CONDITION: With a utilities plan, required equipment and personnel.

STANDARD: To meet planning requirements.

EVENT COMPONENTS:

- 1. Perform Water Recon
- 2. Establish Water Point
- 3. Produce Potable Water
- 4. Store Potable Water
- 5. Establish Water Distribution Points

CHAINED EVENTS:

CAB-UTIL-3005	CAB-UTIL-3006	CAB-UTIL-3007
RELATED EVENTS:		
1169-ADMN-2007	1169-ADMN-2021	1169-ADMN-2022
1169-ADMN-2051	1169-ADMN-2052	1169-ADMN-2075
1169-ADMN-2091	1169-XENG-2501	1169-XENG-2502
1169-XENG-2553	1169-XENG-2653	1169-XENG-2752
1169-XENG-2753	1169-XENG-2853	

REFERENCES:

- 1. Appropriate Technical Manuals
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 5. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 6. TB MED 577 Occupational and Environmental Health Sanitary Control and Surveillance of Field Water Supplies

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17924 Water Supply Training Area

EQUIPMENT: Utilities equipment with supplemental kits (cartridges, NBC filters etc.), (MHE), water testing kit, tool kits, PPE.

MATERIAL: Chemicals to purify raw water source.

<u>UNITS/PERSONNEL:</u> Note: Request Navy Medical Technician and Preventive Medicine Technician (PMT) as required.

CAB-UTIL-4003: Provide tactical hygiene support

SUPPORTED MCT(S): MCT 1.1.2

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Provide tactical hygiene support in order to provide sanitary shower, laundry, and field sanitation support to meet the commander's intent.

CONDITION: With a utilities plan, required equipment and personnel.

STANDARD: To meet planning requirements and IAW commander's intent.

EVENT COMPONENTS:

- 1. Establish shower facilities.
- 2. Establish laundry facilities.
- 3. Supervise field sanitation.

CHAINED EVENTS:

CAB-UTIL-3007	CAB-UTIL-3008	CAB-UTIL-3009
CAB-UTIL-3010		

RELATED EVENTS:

1169-ADMN-2007	1169-ADMN-2021	1169-ADMN-2022
1169-ADMN-2051	1169-ADMN-2052	1169-ADMN-2091
1169-XENG-2501	1169-XENG-2502	1169-XENG-2555
1169-XENG-2655	1169-XENG-2755	1169-XENG-2855

REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCRP 4-11.1D Field Hygiene and Sanitation

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Utilities equipment, Material Handling equipment, PPE.

MATERIAL: Building materials (gravel, lime, pest insecticide, lumber etc.)

CAB-VERT-4001: Conduct limited vertical construction

SUPPORTED MCT(S):

MCT 1.4.1 MCT 6.1.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Conduct limited vertical construction to build or provide improvements to existing structures or construction of base camps, command posts, and maintenance facilities for use by the GCE.

<u>CONDITION</u>: Given a mission, commander's intent, tactical situation, task organized equipment and personnel, design specifications, construction materials and appropriate references.

STANDARD: To build and/or improve facilities that meet the minimum requirements listed in the design specifications in accordance with the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Plan vertical construction.
- 2. Conduct engineer reconnaissance.
- 3. Conduct survey.

1371-VERT-1001

1371-VERT-1005

- 4. Coordinate resources for project.
- 5. Conduct site preparation.
- 6. Repair facility, as required.
- 7. Erect prefabricated structure, as required.
- 8. Construct wood frame structure, as required.
- 9. Construct timber structure, as required.
- 10. Construct expedient drainage structure, as required.
- 11. Wire structure for electricity, as required.
- 12. Submit required reports.

CHAINED EVENTS:

CAB-HEOP-3001	CAB-HEOP-3002	CAB-MOBL-3010
CAB-RECN-3005	CAB-RECN-4005	CAB-UTIL-3004
CAB-VERT-4002	CAB-VERT-4003	CAB-VERT-4004
RELATED EVENTS:		
1302-RECN-1001	1302-VERT-1001	1316-XENG-1001
1316-XENG-1006	1361-DRAF-1002	1361-DRAF-1003
1361-SRVY-1004	1361-SRVY-1008	1361-SRVY-2003
1361-SRVY-2004	1361-SRVY-2005	1371-EOPS-2006
1371-EOPS-2007	1371-EOPS-2008	1371-EOPS-2010
1371-EOPS-2011	1371-EOPS-2012	1371-HORZ-2002

1371-RECN-2001

1371-VERT-1004

1371-VERT-2002

REFERENCES:

1371-HORZ-2003

1371-VERT-2001

1371-VERT-1002

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCRP 3-17.7C Carpentry
- 3. MCRP 3-17.7F Project Management
- 4. MCRP 3-17.7I Earthmoving Operations
- 5. MCRP 3-17.7K Theater of Operations Electrical Systems
- 6. MCRP 3-17.7M Construction Estimating
- 7. MCRP 3-17.7N Base Camps
- 8. MCRP 3-17A Engineering Field Data
- 9. MCWP 3-17 Engineering Operations
- 10. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 11. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 12. MCWP 4-11 Tactical-Level Logistics
- 13. TM 5-232 Elements of Construction Surveying

SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer earthmoving equipment, Combat engineer tools and equipment; kits, Material Handling Equipment.

CAB-VERT-4002: Construct wood frame structure

SUPPORTED MCT(S):

MCT 6.1.4 MCT 1.4.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

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<u>DESCRIPTION</u>: Construct wood frame structures for use in all operations conducted to include but not limited to; strong backs, sheds, facilities, sea huts, etc. or may be specified in mission directives in support of the GCE.

<u>CONDITION</u>: Given a mission, commander's intent, tactical situation, task organized equipment and personnel, construction plans, design specifications, construction materials and references.

STANDARD: To meet the requirements listed in the design specifications in accordance with commander's intent.

EVENT COMPONENTS:

- 1. Review construction plans and schematics.
- 2. Review engineer reconnaissance and survey.
- 3. Acquire resources needed for project.
- 4. Conduct site preparation, as required.
- 5. Operate/employ engineer equipment and kits.
- 6. Construct/install footers, as required.
- 7. Construct/install flooring structure, as required
- 8. Construct/install wall structure(s), as required.
- 9. Construct/install roof structure, as required.
- 10. Construct/install doors, as required.
- 11. Construct/install windows, as required.
- 12. Finish interior, as required.
- 13. Finish exterior, as required.
- 14. Submit required reports.

PREREQUISITE EVENTS:

CAB-RECN-3005 CAB-RECN-4005

CHAINED EVENTS:

CAB-HEOP-3001 CAB-HEOP-3002

REFERENCES:

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7F Project Management
- 3. MCRP 3-17.7M Construction Estimating
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-17.7 General Engineering
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)

CAB-VERT-4003: Construct timber structure

SUPPORTED MCT(S):

MCT 1.4.1 MCT 6.1.4

EVALUATION-CODED: NO **SUSTAINMENT INTERVAL:** 12 months

<u>DESCRIPTION</u>: Construct timber structures for survivability of personnel and equipment. Structures consist of but not limited to bunkers, shelters, overhead cover, guard posts, crew-serve weapons positions, and individual fighting positions.

CONDITION: Given a mission, commander's intent, tactical situations, task organized equipment and personnel, design specifications, construction materials and references.

STANDARD: To meet the survivability requirements and in accordance with the commander's intent.

EVENT COMPONENTS:

- 1. Review construction plans and schematics.
- 2. Review engineer reconnaissance and survey.
- 3. Acquire resources needed for project.
- 4. Conduct site preparation, as required.
- 5. Operate/employ engineer equipment and kits.
- 6. Construct/prefabricate structures, as required.
- 7. Emplace structures, as required.
- 8. Construct/install wall structure(s), as required.
- 9. Construct/install roof structure/components, as required.
- 10. Construct/install doors, as required.
- 11. Construct/install portholes, as required.
- 12. Sandbag structure, as required.
- 13. Camouflage, as required.
- 14. Install grenade sumps, as required.
- 15. Submit required reports.

PREREQUISITE EVENTS: CAB-RECN-4005

RELATED EVENTS:		
1302-EOPS-1007	1302-EOPS-1009	1302-RECN-1001
1302-SURV-1001	1302-SURV-1002	1302-VERT-1001
1371-EOPS-1002	1371-EOPS-1003	1371-EOPS-1004
1371-EOPS-2006	1371-EOPS-2007	1371-EOPS-2008
1371-EOPS-2010	1371-EOPS-2011	1371-MANT-1001
1371-RECN-2001	1371-SURV-1001	1371-SURV-2001

1371-VERT-1001

1371-VERT-1005

CAB-RECN-4006

REFERENCES:

1371-SURV-2002

1371-VERT-1004

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7F Project Management
- 3. MCRP 3-17.7M Construction Estimating
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-17.7 General Engineering
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Engineer Material Handling equipment, Combat Engineer tools and Kits

1371-VERT-1002

<u>CAB-VERT-4004</u>: Provide limited repair of existing structures

SUPPORTED MCT(S):

MCT 1.4.1 MCT 6.1.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Provide limited repair of facilities that have been damaged/flawed or incorrect per design specifications in support of the GCE.

<u>CONDITION</u>: Given a mission, commander's intent, tactical situation, task organized equipment and personnel, structure/facility in need of repair, construction materials and references.

STANDARD: To meet the original design requirements/specifications to restore structure or facilities and in accordance with the commander's intent.

EVENT COMPONENTS:

- 1. Review construction plans and schematics, as required.
- 2. Review engineer reconnaissance and survey, as required.
- 3. Acquire resources needed for project.
- 4. Conduct site preparation, as required.
- 5. Operate/employ engineer equipment and kits.
- 6. Repair/replace structural components, as required.
- 7. Repair/replace electrical, as required.
- 8. Repair bridge abutments, as required.
- 9. Submit required reports.

CHAINED EVENTS:

CAB-HEOP-3002 CAB-UTIL-3004

RELATED EVENTS:

1302-EOPS-1009	1302-RECN-1001	1302-VERT-1001
1316-XENG-1001	1316-XENG-1006	1371-EOPS-2007
1371-EOPS-2010	1371-EOPS-2011	1371-RECN-1001
1371-RECN-1001	1371-VERT-1001	1371-VERT-1002
1371-VERT-1003	1371-VERT-1003	1371-VERT-1004
1371-VERT-1005		

REFERENCES:

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 3. MCRP 3-17.7F Project Management
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-33 Military Operations Other Than War (MOOTW)

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Engineer Material Handling equipment, Combat Engineer tools and kits

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CAB-VERT-4005: Rig expedient lifting devices

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 3 months

<u>DESCRIPTION</u>: Rig expedient lifting devices for field expedient lifting of heavy objects and equipment with the use of organic equipment assets and fabricated supports (gin poles, tripods, shear poles, etc.). Rigging devices support the conduct of using pulleys for mechanical advantage to allow loads to be lifted, moved, and/or displaced to desired area.

CONDITION: Given a tactical situation, requirement to use rigging equipment, personnel, tools, and references.

STANDARD: To lift tools, equipment, or components of structures for accomplishment of tactical missions in accordance with the concept of operations.

EVENT COMPONENTS:

- 1. Review the mission.
- 2. Coordinate for logistical requirements.
- 3. Acquire necessary materials, as required.
- 4. Compute safe working load, as required.
- 5. Rig lifting system, as required.
- 6. Erect lifting system, as required.
- 7. Crib, as required.
- 8. Install block(s), as required.
- 9. Install anchor systems, as required.
- 10. Operate lifting system.

RELATED EVENTS:

1371-EOPS-1005 1371-EOPS-2009

REFERENCES:

- 1. MCRP 3-17.7J Rigging Techniques, Procedures, and Applications
- 2. MCRP 3-17A Engineering Field Data
- 3. MCRP 3-17B Engineer Forms and Reports

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

3007. 3000-LEVEL EVENTS

CAB-CMOB-3001: Construct field expedient obstacles

SUPPORTED MCT(S): MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Construct field expedient obstacles to tie into existing

natural or other man made obstacles so enemy movement/maneuvers are fixed, turned, blocked or disrupted.

<u>CONDITION</u>: Given a tactical situation, type of obstacle required, obstacle intent, engineer tools and equipment, Class IV and V supplies, expedient obstacle material, personal protective equipment (PPE), and an area to construct the obstacle.

<u>STANDARD</u>: To tie into existing natural or other man made obstacles so enemy movement/maneuvers are fixed, turned, blocked or disrupted in accordance with the concept of operations.

EVENT COMPONENTS:

- 1. Prepare to construct field expedient obstacle(s).
- 2. Construct log obstacles if applicable.
- 3. Construct an abatis if applicable.
- 4. Construct improvised obstacles if applicable.
- 5. Improve, as necessary.

RELATED EVENTS:

<u> </u>		
1302-CMOB-1001	1302-CMOB-1003	1310-ADMN-2002
1310-ADMN-2004	1310-ADMN-2010	1310-HEOP-2001
1310-MANT-2002	1316-ADMN-2001	1316-ADMN-2002
1316-XENG-1001	1316-XENG-1006	1316-XENG-2002
1345-ADMN-1002	1345-ADMN-2002	1345-HEOP-1004
1345-HEOP-2012	1345-MANT-1001	1345-MANT-2001
1349-ADMN-2002	1349-ADMN-2004	1349-ADMN-2009
1349-ADMN-2010	1349-HEOP-2001	1349-MANT-2002
1371-CMOB-1002	1371-DEMO-1001	1371-EOPS-1002
1371-EOPS-1003		

REFERENCES:

- 1. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.4 Engineer Reconnaissance
- 8. MCWP 3-17.5 Combined Arms Countermobility Operations
- 9. MCWP 3-17.6 Survivability
- 10. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 11. MCWP 3-35.5 Jungle Operations
- 12. MCWP 3-35.6 Desert Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
M032 Charge, Demolition Block TNT 1-Pound	20 charges per Team
M039 Charge, Demolition Cratering 40-Poun	1 charges per Team
M130 Cap, Blasting Electric M6	20 blasting caps per Team
M131 Cap, Blasting Non-Electric M7	20 blasting caps per Team
M420 Charge, Demolition Shaped M2 Series	1 charges per Team

M421 Charge, Demolition Shaped M3 Series

M456 Cord, Detonating PETN Type I Class E

M591 Dynamite, Military M1

M670 Fuse, Blasting Time M700

M757 Charge, Assembly Demolition M183 Com

MN08 Igniter, Time Blasting Fuse with Sho

1 charges per Team

1 charges per Team

1 charges per Team

1 charges per Team

20 igniters per Team

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat Engineer equipment, tools and kits, Earthmoving equipment, Demo kit.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CAB-CMOB-3002: Build non-explosive obstacles

SUPPORTED MCT(S): MCT 1.4.2

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 6 months

DESCRIPTION: Build non-explosive obstacles to, block, fix, or disrupt the enemy. Typical examples are: Wire, Tank ditches, Log cribs, Steel H beam post obstacles, falling or tumble blocks, Dragon's teeth, hedgehogs, tetrahedrons and non-explosive abatis.

CONDITION: Given a mission, commander's intent, location to emplace the obstacle, task organized personnel and equipment, and resources (Class IV and V supplies, natural terrain, battlefield materials, etc.).

STANDARD: To, block, fix, or disrupt the enemy in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Review mission and schematics
- 2. Determine actual work sequence.
- 3. Coordinate logistical requirements.
- 4. Coordinate overwatch/ security for obstacle construction.
- 5. Move to obstacle site.
- 6. Tie obstacles into natural/existing obstacles, as required.
- Construct/place mobility obstacles (barriers, hedgehogs, etc.), as required.
- 8. Construct wire obstacles, as required.
- 9. Construct/place field expedient obstacles (logs, abatis, rubble, etc.), as required.
- 10. Construct/create deceptive obstacles, as required.
- 11. Construct tank ditches, as required.

12. Submit required reports.

RELATED EVENTS:		
1302-CMOB-1001	1302-CMOB-1002	1302-CMOB-1002
1302-CMOB-1003	1310-ADMN-2010	1310-HEOP-2001
1310-MANT-2002	1316-ADMN-1002	1316-ADMN-2001
1316-ADMN-2002	1316-XENG-1001	1316-XENG-1006
1316-XENG-2002	1345-ADMN-1002	1345-ADMN-2002
1345-HEOP-1004	1345-HEOP-1007	1345-HEOP-2007
1345-HEOP-2012	1345-MANT-1001	1345-MANT-2001
1345-MANT-2003	1345-MANT-2004	1349-ADMN-2002
1349-ADMN-2004	1349-ADMN-2010	1349-HEOP-2001
1349-MANT-2002	1371-CMOB-1001	1371-CMOB-1001
1371-CMOB-1002	1371-CMOB-2001	1371-CMOB-2001
1371-CMOB-2002	1371-CMOB-2003	

REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCRP 3-17.7L Explosives and Demolitions
- 3. MCRP 3-17A Engineering Field Data
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 6. MCWP 3-1 Ground Combat Operations
- 7. MCWP 3-13.2 MINE WARFARE
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.5 Combined Arms Countermobility Operations
- 11. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Combat engineer equipment, tools and kits, MHE, Earthmoving equipment.

<u>CAB-CMOB-3003</u>: Employ explosive obstacles

SUPPORTED MCT(S): MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Create an explosive obstacle to turn, block, fix, or disrupt enemy movement or maneuver of personnel or equipment.

CONDITION: Given an operations order, personnel, demolitions material, engineer equipment, and personal protective equipment.

STANDARD: To turn, block, fix, or disrupt the enemy in accordance with the concept of operations and commander's intent.

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EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Prepare site.
- 3. Build the explosive obstacle.
- 4. Emplace explosive obstacle.
- 5. Recover, as required.
- 6. Submit required reports.

REFERENCES:

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCWP 3-13.2 MINE WARFARE
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance

SUPPORT REQUIREMENTS:

ORDNANCE:

Quantity
20 charges per Team
1 charges per Team
20 blasting caps per Team
10 blasting caps per Team
1 charges per Team
1 charges per Team
1000 FT per Team
10 charges per Team
500 FT per Team
1 charges per Team
20 igniters per Team

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: PPE

UNITS/PERSONNEL: Range Safety officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

<u>CAB-DEMO-3001</u>: Destroy captured arms and ammunition with demolitions

SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Destroy captured arms and ammunition with demolitions to ensure

destruction. Examples include: confined gaseous, liquid, and solid propellants; explosives; pyrotechnics; chemical and riot-control agents; smokes and incendiaries (including bulk explosives); chemical warfare agents; chemical munitions; rockets; guided and ballistic missiles; bombs; warheads; mortar rounds; artillery ammunition; small arms ammunition; grenades; mines; torpedoes; depth charges; cluster munitions and dispensers; demolition charges; and devices and components of the above.

CONDITION: Given a tactical situation, demolition target, demolitions, task organized personnel, demolition tools, equipment, and references.

STANDARD: To ensure destruction of target per commander's intent and mission requirements.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Coordinate with supporting unit (EOD), as required.
- 3. Prepare equipment, as required.
- 4. Move to demolition site.
- 5. Prepare charge for demolition.
- 6. Set charge.
- 7. Established safety zone.
- 8. Detonate explosive.
- 9. Verify destruction of arms and ammunition.
- 10. Submit required reports.

RELATED EVENTS:

1302-DEMO-1001	1302-DEMO-1002	1302-DEMO-1004
1302-DEMO-1004	1302-DEMO-2001	1371-DEMO-1001
1371-DEMO-2002	1371-DEMO-2004	1371-DEMO-2005
1371-MOBL-2023		

REFERENCES:

- 1. GTA 5-10-33 Demolition Card
- 2. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 3-17 Engineering Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
M028 Demolition Kit, Bangalore Torpedo M1	1 cases per Team
M032 Charge, Demolition Block TNT 1-Pound	3 charges per Team
M039 Charge, Demolition Cratering 40-Poun	3 charges per Team
M130 Cap, Blasting Electric M6	5 blasting caps per Team
M131 Cap, Blasting Non-Electric M7	5 blasting caps per Team
M420 Charge, Demolition Shaped M2 Series	1 charges per Team
M456 Cord, Detonating PETN Type I Class E	250 FT per Team
M591 Dynamite, Military M1	6 charges per Team
M670 Fuse, Blasting Time M700	150 FT per Team

M757 Charge, Assembly Demolition M183 Com
M982 Charge, Demolition Sheet 0.161 Inch
MM30 Charge, Flexible 20 Gram PETN MK140
MM44 Charge, Demolition Flexible Linear S
MM45 Charge, Demolition Flexible Linear S
MM47 Charge, Demolition Flexible Linear S
MM48 Charge, Demolition Flexible Linear S
MM59 Igniter, Time Blasting Fuse with Sho

1 cases per Team
6 FT per Team
6 FT per Team
7 charges per Team
7 charges per Team
7 charges per Team
8 charges per Team
9 charges per Team

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: PPE

UNITS/PERSONNEL: Range Safety officer, Corpsman

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event

CAB-DEMO-3002: Destroy bridge with demolitions

SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Destroy bridge with demolitions which results in either a gap that exceeds the enemy's assault bridging capability by 5 meters, or that leaves demolished components which are unable to provide sufficient bearing capacity for enemy assault breaching assets.

CONDITION: Given a tactical situation, demolition target, demolitions, task organized personnel, demolition tools, equipment, and references.

STANDARD: To ensure destruction of target per commander's intent and mission requirements.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Coordinate with supporting unit (EOD), as required.
- 3. Prepare equipment, as required.
- 4. Move to demolition site.
- 5. Prepare charge for demolition.
- 6. Set charge.
- 7. Established safety zone.
- 8. Detonate explosive.
- 9. Verify destruction of bridge.
- 10. Submit required reports.

RELATED EVENTS:

1302-DEMO-1001	1302-DEMO-1002	1302-MOBL-1007
1371-CMOB-2004	1371-DEMO-1001	1371-DEMO-2001
1371-DEMO-2002	1371-DEMO-2004	1371-DEMO-2005
1371-DEMO-2006	1371-DEMO-2015	

REFERENCES:

- 1. GTA 5-10-33 Demolition Card
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
M028 Demolition Kit, Bangalore Torpedo M1	1 cases per Team
M032 Charge, Demolition Block TNT 1-Pound	3 charges per Team
M039 Charge, Demolition Cratering 40-Poun	3 charges per Team
M130 Cap, Blasting Electric M6	5 blasting caps per Team
M131 Cap, Blasting Non-Electric M7	5 blasting caps per Team
M420 Charge, Demolition Shaped M2 Series	1 charges per Team
M456 Cord, Detonating PETN Type I Class E	250 FT per Team
M591 Dynamite, Military M1	6 charges per Team
M670 Fuse, Blasting Time M700	150 FT per Team
M757 Charge, Assembly Demolition M183 Com	1 cases per Team
M982 Charge, Demolition Sheet 0.161 Inch	6 FT per Team
MM30 Charge, Flexible 20 Gram PETN MK140	4 charges per Team
MM44 Charge, Demolition Flexible Linear S	1 charges per Team
MM45 Charge, Demolition Flexible Linear S	1 charges per Team
MM47 Charge, Demolition Flexible Linear S	1 charges per Team
MM48 Charge, Demolition Flexible Linear S	1 charges per Team
MN08 Igniter, Time Blasting Fuse with Sho	15 igniters per Team

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: PPE

UNITS/PERSONNEL: Range Safety officer, Corpsman

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

<u>CAB-DEMO-3003</u>: Destroy tunnel with demolitions

SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Destroy tunnel with demolitions to restrict the mobility of the enemy.

CONDITION: Given a tactical situation, demolition target, demolitions, task organized personnel, demolition tools, equipment, and references.

STANDARD: To ensure destruction of target per commander's intent and mission requirements.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Coordinate with supporting unit (EOD), as required.
- 3. Prepare equipment, as required.
- 4. Move to demolition site.
- 5. Prepare charge for demolition.
- 6. Set charge.
- 7. Established safety zone.
- 8. Detonate explosive.
- 9. Verify destruction of tunnel.
- 10. Submit required reports.

RELATED EVENTS:

1302-DEMO-1001	1302-DEMO-1002	1302-DEMO-1003
1302-MOBL-1007	1371-DEMO-1001	1371-DEMO-2001
1371-DEMO-2001	1371-DEMO-2002	1371-DEMO-2004
1371-DEMO-2005		

REFERENCES:

- 1. GTA 5-10-33 Demolition Card
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity	
M028 Demolition Kit, Bangalore Torpedo M1	1 cases per Team	
M032 Charge, Demolition Block TNT 1-Pound	3 charges per Team	
M039 Charge, Demolition Cratering 40-Poun	3 charges per Team	
M130 Cap, Blasting Electric M6	5 blasting caps per Team	
M131 Cap, Blasting Non-Electric M7	5 blasting caps per Team	
M420 Charge, Demolition Shaped M2 Series	1 charges per Team	
M456 Cord, Detonating PETN Type I Class E	250 FT per Team	
M591 Dynamite, Military M1	6 charges per Team	
M670 Fuse, Blasting Time M700	1 F O TITL 19 010 TIL 19 10 10 10 10 10 10 10 10 10 10 10 10 10	
110 / 0 Tabe, Blabeling Time 11/00	150 FT per Team	
M757 Charge, Assembly Demolition M183 Com	1 cases per Team	
, 3	-	
M757 Charge, Assembly Demolition M183 Com	1 cases per Team	
M757 Charge, Assembly Demolition M183 Com M982 Charge, Demolition Sheet 0.161 Inch	1 cases per Team 6 FT per Team	

MM45 Charge, Demolition Flexible Linear S 1 charges per Team MM47 Charge, Demolition Flexible Linear S 1 charges per Team MM48 Charge, Demolition Flexible Linear S 1 charges per Team MN08 Igniter, Time Blasting Fuse with Sho 15 igniters per Team

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: PPE

UNITS/PERSONNEL: Range Safety officer, Corpsman

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event

CAB-DEMO-3004: Destroy building with demolitions

SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Destroy building with demolitions to ensure destruction of the building.

CONDITION: Given a tactical situation, demolition target, demolitions, task organized personnel, demolition tools, equipment, and references.

STANDARD: To ensure destruction of target per commander's intent and mission requirements.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Coordinate with supporting unit (EOD), as required.
- 3. Prepare equipment, as required.
- 4. Move to demolition site.
- 5. Prepare charge for demolition.
- 6. Set charge.
- 7. Established safety zone.
- 8. Detonate explosive.
- 9. Verify destruction of building.
- 10. Submit required reports.

RELATED EVENTS:

1302-DEMO-1001	1302-DEMO-1002	1302-MOBL-1007
1371-DEMO-1001	1371-DEMO-2001	1371-DEMO-2002
1371-DEMO-2004	1371-DEMO-2005	1371-DEMO-2006

REFERENCES:

1. GTA 5-10-33 Demolition Card

- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC		Quantity	
M028 Demoliti	on Kit, Bangalore Torpedo Ml	1 cases per Team	
M032 Charge,	Demolition Block TNT 1-Pound	3 charges per Team	
M039 Charge,	Demolition Cratering 40-Poun	3 charges per Team	
M130 Cap, Bla	asting Electric M6	5 blasting caps per Team	
M131 Cap, Bla	asting Non-Electric M7	5 blasting caps per Team	
M420 Charge,	Demolition Shaped M2 Series	1 charges per Team	
M456 Cord, De	etonating PETN Type I Class E	250 FT per Team	
M591 Dynamite	e, Military M1	6 charges per Team	
M670 Fuse, Bl	asting Time M700	150 FT per Team	
M757 Charge,	Assembly Demolition M183 Com	1 cases per Team	
M982 Charge,	Demolition Sheet 0.161 Inch	6 FT per Team	
MM30 Charge,	Flexible 20 Gram PETN MK140	4 charges per Team	
MM44 Charge,	Demolition Flexible Linear S	1 charges per Team	
MM45 Charge,	Demolition Flexible Linear S	1 charges per Team	
J ,	Demolition Flexible Linear S	1 charges per Team	
MM48 Charge,	Demolition Flexible Linear S	1 charges per Team	
MN08 Igniter	Time Blasting Fuse with Sho	15 igniters per Team	

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: 260 CFM, PPE.

UNITS/PERSONNEL: Range Safety officer, Corpsman

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event

CAB-HEOP-3001: Provide limited Material Handling Equipment (MHE) support

SUPPORTED MCT(S):

MCT 1.12.1 MCT 1.4.1 MCT 1.4.2 MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Provide limited Material Handling Equipment (MHE) support to the GCE utilizing the required type(s) of engineer equipment and personnel.

CONDITION: Given an operations order, personnel, and engineer equipment.

STANDARD: To support mission requirements.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Prepare equipment for operation.
- 3. Move to site.
- 4. Establish safety zone.
- 5. Deploy safety measures for equipment.
- 6. Conduct lift of material.
- 7. Displace equipment, as required.
- 8. Submit required reports.

RELATED EVENTS:

1310-ADMN-2002	1310-ADMN-2006	1310-ADMN-2009
1310-ADMN-2010	1310-HEOP-2001	1310-MANT-2002
1345-ADMN-1002	1345-HEOP-1001	1345-HEOP-1002
1345-НЕОР-1003	1345-HEOP-2009	1345-MANT-1001
1349-ADMN-2002	1349-ADMN-2006	1349-ADMN-2009
1349-ADMN-2010	1349-HEOP-2001	1349-MANT-2002

REFERENCES:

- 1. Local Standard Operating Procedures (SOP)
- 2. Applicable technical references

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces

CAB-HEOP-3002: Provide limited earth moving equipment support

SUPPORTED MCT(S):

MCT 1.12.1 MCT 1.4.1 MCT 1.4.2 MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Provide limited earth moving equipment support to support the mission utilizing the required type(s) of engineer equipment and personnel.

CONDITION: Given an operations order, personnel, and engineer equipment.

STANDARD: To support mission requirements.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Prepare equipment for operation.
- 3. Move to site.
- 4. Establish safety zone.
- 5. Deploy safety measures for equipment.
- 6. Conduct combined earthmoving operations.
- 7. Displace equipment, as required.

8. Submit required reports.

RELATED EVENTS:

1310-ADMN-2002	1310-ADMN-2010	1310-HEOP-2001
1310-HORZ-2001	1310-HORZ-2002	1310-HORZ-2003
1310-MANT-2002	1345-ADMN-1002	1345-ADMN-2002
1345-ADMN-2002	1345-HEOP-1003	1345-HEOP-1004
1345-HEOP-1005	1345-HEOP-1007	1345-HEOP-2006
1345-HEOP-2007	1345-MANT-1001	1345-MANT-2001
1349-ADMN-2002	1349-ADMN-2010	1349-HEOP-2001
1349-HORZ-2001	1349-HORZ-2002	1349-HORZ-2003
1349-MANT-2002		

REFERENCES:

- 1. Local Standard Operating Procedures (SOP)
- 2. Applicable technical references

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces

CAB-MANT-3001: Maintain engineer equipment

SUPPORTED MCT(S):

MCT 1.1.2 MCT 4.4.4

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 12 months

DESCRIPTION: Maintain engineer equipment by conducting preventive and corrective maintenance on engineer equipment using unit assigned maintenance levels.

CONDITION: With equipment, tools, repair parts, supplies, personnel and references.

<u>STANDARD</u>: To sustain equipment in an operational status at or above unit's readiness requirements.

EVENT COMPONENTS:

- 1. Monitor equipment readiness.
- 2. Conduct reconciliation.
- 3. Assign tasks.
- 4. Maintain organic tactical engineer equipment.
- 5. Manage maintenance programs.
- 6. Submit required reports.

RELATED EVENTS:

1310-ADMN-2002	1310-ADMN-2003
1310-ADMN-2005	1310-ADMN-2008
1316-ADMN-1001	1316-ADMN-1002
1316-ADMN-2001	1316-ADMN-2002
	1310-ADMN-2005 1316-ADMN-1001

1316-MANT-1002	1316-MANT-1004	1316-XENG-1001
1316-XENG-1002	1316-XENG-1004	1316-XENG-1005
1316-XENG-1006	1341-ADMN-1001	1341-ADMN-1002
1341-ADMN-2001	1341-ADMN-2002	1341-ADMN-2003
1341-ADMN-2004	1341-MANT-1001	1341-MANT-1002
1341-MANT-1003	1341-MANT-1004	1341-MANT-1005
1341-MANT-1006	1341-MANT-1007	1341-MANT-1008
1341-MANT-1009	1341-MANT-1010	1341-MANT-2009
1341-MANT-2010	1345-ADMN-1002	1345-MANT-1001
1345-MANT-2001	1345-MANT-2002	1349-ADMN-2001
1349-ADMN-2002	1349-ADMN-2003	1349-ADMN-2004
1349-ADMN-2008	1349-MANT-2001	1349-MANT-2002
1371-MANT-1001	1371-MANT-2002	

- 1. DoDI 6055.1 DoD Safety and Occupational Health (SOH) Program
- 2. EMC Electric Motor Controls by American Technical Publishers, Inc.
- 3. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 4. MCO 4733.1_ Marine Corps Test, Measurement, and Diagnostics Equipment (TMDE) Calibration and Maintenance Program (CAMP)
- 5. MCO 4790.18_ Corrosion Prevention and Control (CPAC) Program
- 6. MCO 5100.29_ Marine Corps Safety Program
- 7. MCO P4790.2_ MIMMS Field Procedures Manual
- 8. SOP Standard Operating Procedures (SOP)

SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer tools, sets, kits.

CAB-MANT-3002: Maintain Tactical Power Distribution System

SUPPORTED MCT(S): MCT 1.1.2

EVALUATION-CODED: NO **SUSTAINMENT INTERVAL:** 12 months

<u>DESCRIPTION</u>: Maintain equipment to ensure the safe distribution of electrical power to meet mission requirements and commander's intent.

CONDITION: With a Preventive Maintenance Checks and Service (PMCS) Schedule, testing equipment, tools, and personnel.

STANDARD: To ensure the equipment is safe and operational.

EVENT COMPONENTS:

- 1. Review PMCS schedule, as required.
- 2. Induct equipment into maintenance cycle.
- 3. Conduct preventive maintenance, as required.
- 4. Conduct corrective maintenance, as required.
- 5. Complete Modifications, as required.
- 6. Ground system, as required.
- 7. Electrically energize system, as required.
- 8. Diagnose malfunction, as required.

- 9. Requisition repair parts, as required.
- 10. Install repair parts, as required.
- 11. Test system.
- 12. Complete quality control requirements.
- 13. Complete administrative maintenance requirements.

- 1. MCO P4790.2 MIMMS Field Procedures Manual
- 2. MCRP 3-17.7K Theater of Operations Electrical Systems
- 3. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 4. TM 4700-15/1_ Ground Equipment Record Procedures
- 5. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety

SUPPORT REQUIREMENTS:

EQUIPMENT: Multi-meter, tools, power generation equipment, PPE.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: This task includes conducting maintenance on generators, MEPDIS and MEPDIS-R.

CAB-MANT-3003: Maintain water purification equipment

SUPPORTED MCT(S): MCT 1.1.2

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Manage and conduct preventive and corrective maintenance on water purification equipment to meet mission requirements and commanders intent.

CONDITION: With equipment, tools, repair parts, supplies, personnel and references.

STANDARD: To sustain equipment in an operational status at or above units readiness requirements.

EVENT COMPONENTS:

- 1. Conduct operational checks and services.
- 2. Conduct Limited Technical Inspection (LTI).
- 3. Open service request (GCSS-MC).
- 4. Order Repair Parts.
- 5. Install Repair Parts.
- 6. Complete Modifications, as required.
- 7. Perform Operational Checks.
- 8. Complete quality control requirements.
- 9. Complete maintenance administrative requirements.

RELATED EVENTS:

1142-ADMN-2061 1142-ADMN-2073 1142-MANT-1101

1142-MANT-1106	1142-MANT-1108	1142-MANT-1109
1142-MANT-1382	1142-MANT-1493	1142-MANT-2191
1142-MANT-2383	1171-ADMN-1006	1171-ADMN-1007
1171-ADMN-1008	1171-ADMN-1010	1171-ADMN-1011
1171-ADMN-2071	1171-ADMN-2072	1171-ADMN-2073
1171-MANT-1233	1171-MANT-1248	1171-MANT-1271
1171-MANT-1272	1171-MANT-1274	1171-MANT-1277
1171-MANT-1278	1171-MANT-1279	1171-MANT-1280
1171-MANT-1282	1171-MANT-1284	1171-MANT-1285
1171-MANT-1333	1171-MANT-1348	1171-MANT-1371
1171-MANT-1372	1171-MANT-1374	1171-MANT-1379
1171-MANT-1382	1171-MANT-1433	1171-MANT-1441
1171-MANT-1448	1171-MANT-1471	1171-MANT-1472
1171-MANT-1474	1171-MANT-1478	1171-MANT-1482
1171-MANT-1484	1171-MANT-1485	1171-MANT-2101
1171-MANT-2191	1171-MANT-2396	1171-MANT-2397

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TM 09476B-13/1 Operator, Unit, and Direct Support Maintenance Manual for Hypochlorination Unit
- 4. TM 09476B-23P/2 Unit and Direct Support Maintenance Repair Parts and Special Tools List for Hypochlorination Unit
- 5. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 6. TM 4700-15/1_ Ground Equipment Record Procedures

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17924 Water Supply Training Area

EQUIPMENT: Utilities equipment, Engineer Material Handling Equipment, appropriate tools and kits.

MATERIAL: POLs, as required

CAB-MANT-3004: Maintain Hygiene Equipment

SUPPORTED MCT(S): MCT 1.1.2

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Manage and conduct preventive and corrective maintenance on water support equipment to meet mission requirements and commanders intent.

CONDITION: With equipment, tools, repair parts, supplies, personnel and references.

 $\underline{\mathtt{STANDARD}}$: To sustain equipment in an operational status at or above units readiness requirements.

EVENT COMPONENTS:

- 1. Conduct operational checks and services.
- 2. Conduct Limited Technical Inspection (LTI).
- 3. Open service request (GCSS-MC).
- 4. Order Repair Parts.
- 5. Install Repair Parts.
- 6. Complete Modifications, as required.
- 7. Perform Operational Checks.
- 8. Complete quality control requirements.
- 9. Complete maintenance administrative requirements.

RELATED EVENTS:

KETHIED EVENIES.		
1142-MANT-1101	1142-MANT-1106	1142-MANT-1108
1142-MANT-1109	1142-MANT-1331	1142-MANT-1392
1142-MANT-1493	1142-MANT-2332	1142-MANT-2338
1142-MANT-2438	1171-ADMN-1006	1171-ADMN-1007
1171-ADMN-1008	1171-ADMN-1010	1171-ADMN-1011
1171-ADMN-2071	1171-ADMN-2072	1171-ADMN-2073
1171-MANT-1231	1171-MANT-1232	1171-MANT-1241
1171-MANT-1277	1171-MANT-1278	1171-MANT-1331
1171-MANT-1332	1171-MANT-1431	1171-MANT-1432
1171-MANT-1477	1171-MANT-1478	1171-MANT-2101
1171-MANT-2191	1171-MANT-2338	1171-MANT-2395
1171-MANT-2396	1171-MANT-2438	

REFERENCES:

- 1. FM 10-52 Water Supply in Theaters of Operation
- 2. FM 10-52-1 Water Supply Point Equipment and Operations
- 3. MCWP 4-11.4 Maintenance Operations
- 4. MCWP 4-11.6 Petroleum and Water Logistics Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17924 Water Supply Training Area

EQUIPMENT: Utilities equipment, Engineer Material Handling Equipment, appropriate tools and kits.

MATERIAL: Appropriate POLs, as required.

CAB-MOBL-3001: Engage targets with MK153 SMAW

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Engage targets with MK153 SMAW to destroy bunkers and other fortifications during assault operations as well as other designated targets

CONDITION: Given a tactical scenario which presents a series of realistic threats, at ranges 150 to 250 meters, wearing a fighting load, operating as

an assault team (gunner and assistant gunner) in support of a maneuvering unit , firing from all positions, during day or night operations.

STANDARD: Attain hits on designated/ appropriate targets from suitable tactical positions using spotting rounds and appropriate rockets, maximizing the use of cover to load and engage targets, or suppressing fire/concealment, when cover is not available, in accordance with commander's intent and the target attack guidance matrix.

EVENT COMPONENTS:

- 1. Load the SMAW.
- 2. Select a firing position.
- 3. Acquire the target in the sight.
- 4. Determine range to target.
- 5. Set the estimated range on the sight range selector drum (telescopic sight).
- 6. Place the SMAW in Condition 1.
- 7. Fire a spotting round and observe impact.
- 8. Make necessary adjustments until spotting rounds impact target or until the six (6) spotting rounds are expended.
- 9. Fire the SMAW.
- 10. Take immediate action if misfire occurs with either spotting rifle or launcher.
- 11. Move to alternate/supplemental position.

PREREQUISITE EVENTS: 1371-MOBL-1006

RELATED EVENTS:

1302-MOBL-1005 1371-MOBL-1003 1371-MOBL-1005 1371-MOBL-2017

REFERENCES:

1. TM 08673A-10/1 Launcher, Assault Rocket 83MM (SMAW) MK 153 MOD 0

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC

AX11- Cartridge, 9mm Spotting Rifle MK217

HX05 Rocket, 83mm Assault MK3 Mod 0 (SMAW 2 rocket per Team HX07 Rocket, 83mm HEAA Practice MK7 Mod 0 4 rocket per Team

RANGE/TRAINING AREA: Facility Code 17710 Multipurpose Training Range (MPTR)

EQUIPMENT: MK 153 SMAW, SMAW Cartridge Pack, SMAW Simulator Cartridge.

UNITS/PERSONNEL: Range OIC, Range Safety Officer (RSO), Corpsman.

OTHER SUPPORT REQUIREMENTS: Communications (radio).

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: This task should be trained on the ISMT

before expending live rounds. This task can be accomplished using training rounds. This task can be sustained through ISMT. Quantities of munitions, explosives and pyrotechnics are sufficient to conduct one training evolution per Company of (30 SMAW teams. Final amounts should be adjusted to reflect sustainment intervals for this event.

CAB-MOBL-3002: Conduct an urban breach

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct an urban breach to physically, ballistically, or explosively breach structures in support of GCE mobility requirements.

CONDITION: Given a mission, commander's intent, task organized personnel that are trained and equipped for urban breaching, and references.

STANDARD: To gain entry into a structure or compound to provide sufficient mobility to support the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Reconnoiter target, situation permitting.
- 3. Issue Breacher's brief.
- 4. Construct the charge(s), as required.
- 5. Verify obscuration, concealment, as required.
- 6. Move to breach site.
- 7. Place charge(s), as required.
- 8. Detonate charge(s), as required.
- 9. Conduct ballistic breach, as required.
- 10. Conduct mechanical breach, as required.
- 11. Conduct manual (follow-on) breach, as required.
- 12. Reconstitute for successive breaches, as required.

RELATED EVENTS:

KETHIED EAFMIS:		
1302-DEMO-1002	1302-DEMO-1003	1302-MOBL-1006
1302-MOBL-1007	1371-DEMO-2001	1371-DEMO-2002
1371-DEMO-2003	1371-DEMO-2004	1371-DEMO-2005
1371-DEMO-2006	1371-DEMO-2007	1371-DEMO-2008
1371-DEMO-2009	1371-DEMO-2010	1371-DEMO-2011
1371-DEMO-2012	1371-DEMO-2013	1371-DEMO-2014
1371-MOBL-2013	1371-MOBL-2014	1371-MOBL-2016
1371-MOBL-2019		

REFERENCES:

- 1. Guidebook for Assault Entry Techniques
- 2. Urban Mobility Engineer Guidebook
- 3. 590 MILS M590 Shotgun Owner's Manual
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 7. SWO 60-AA-MMA-010 Demolition Materials

SUPPORT REQUIREMENTS:

ORDNANCE:

Ι	OODIC	Quantity
P	011 Cartridge, 12 Gauge #00 Buckshot M16	10 cartridges per Team
P	1023 Cartridge, 12 Gauge 1 Ounce Slug Com	10 cartridges per Team
P	1024 Cartridge, 12 Gauge Door Breaching M	10 cartridges per Team
M	1130 Cap, Blasting Electric M6	20 blasting caps per Team
M	1456 Cord, Detonating PETN Type I Class E	1000 FT per Team
M	1670 Fuse, Blasting Time M700	500 FT per Team
M	1757 Charge, Assembly Demolition M183 Com	1 charges per Team
M	1982 Charge, Demolition Sheet 0.161 Inch	1 Roll per Team
M	M47 Charge, Demolition Flexible Linear S	5 FT per Team
M	M56 Detonator, Non-Electric MK123 Mod 0	10 detonators per Team
M	M08 Igniter, Time Blasting Fuse with Sho	40 igniters per Team
M	N14 Firing Device, Dual Mode MK54	2 primers per Team

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RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer urban breaching equipment, PPE.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this Event.

CAB-MOBL-3003: Create a lane through an obstacle

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 12 months

<u>DESCRIPTION</u>: Create a lane through an obstacle that provides safe passage of a passing force. The route may be reduced and proofed as part of a breaching operation, be constructed as part of the obstacle, or be marked as a bypass.

CONDITION: Given a tactical situation, an order, breaching assets, location of lane to be created, current obstacle intelligence, and references.

 ${\color{red} {\tt STANDARD}}:$ To assure mobility in accordance with the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Receive the mission.
- 2. Acquire explosive/non-explosive breaching assets.
- 3. Conduct battle drills (team) to rehearse the breach of an obstacle.
- 4. Move to breach site.
- 5. Execute the breach.
- 6. Proof lane.

- 7. Mark lane.
- 8. Submit required reports.

RELATED EVENTS:		
1302-CMOB-1001	1302-CMOB-1003	1302-DEMO-1001
1302-DEMO-1002	1302-MOBL-1004	1302-MOBL-1005
1302-MOBL-1005	1302-MOBL-1008	1302-MOBL-1009
1302-MOBL-1010	1310-ADMN-2009	1310-ADMN-2010
1310-HEOP-2001	1310-MANT-2002	1345-HEOP-1004
1345-HEOP-1006	1345-MANT-1001	1349-ADMN-2009
1349-ADMN-2010	1349-HEOP-2001	1349-MANT-2002
1371-CMOB-1003	1371-CMOB-2001	1371-DEMO-1001
1371-DEMO-2002	1371-DEMO-2003	1371-DEMO-2004
1371-DEMO-2005	1371-MOBL-1001	1371-MOBL-1002
1371-MOBL-1003	1371-MOBL-2012	1371-MOBL-2017
1371-MOBL-2019	1371-MOBL-2020	1371-MOBL-2022
1371-MOBL-2023	1371-MOBL-2035	

- 1. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 2. MCWP 3-1 Ground Combat Operations
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.3 MAGTF Breaching Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

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DODIC	Quantity
J143 Rocket Motor, 5-inch MK22 Mod 4	4 rockets per Team
M028 Demolition Kit, Bangalore Torpedo M1	1 charges per Team
M032 Charge, Demolition Block TNT 1-Pound	20 charges per Team
M130 Cap, Blasting Electric M6	60 blasting caps per Team
M456 Cord, Detonating PETN Type I Class E	1500 FT per Team
M670 Fuse, Blasting Time M700	500 FT per Team
M757 Charge, Assembly Demolition M183 Com	2 charges per Team
M913 Charge, Demolition High Explosive Li	1 charges per Team
M914 Charge, Demolition Inert Linear M68A	2 charges per Team
MN08 Igniter, Time Blasting Fuse with Sho	100 igniters per Team
MN79 Mine, Antipersonnel Obstacle Breachi	1 mines per Team
MN88 Cap, Blasting, 500 ft mini-tube M21	10 blasting caps per Team
MN90 Cap, Blasting, 1000 ft mini-tube M23	10 blasting caps per Team

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer breaching assets, Demo kit, PPE.

<u>UNITS/PERSONNEL</u>: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CAB-MOBL-3004: Proof a lane through an obstacle

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Proof a lane through an obstacle to verify that a lane is free of explosive hazards and that the width and trafficability of the point of breach are suitable for the assault force. Proofing can be conducted visually (against surface-laid minefields), electronically (mine detectors), or mechanically (mine clearing rollers [MCRs]). Proofing is conducted when the risk of live mines remaining in the lane exceeds the risk of loss (lives and equipment) to enemy fires while waiting to complete proofing.

CONDITION: Given a breached lane, task organized equipment and personnel, and references.

STANDARD: To verify that a lane is free of all remnants of explosive and non-explosive obstacles and to allow for rapid passage of assault force in accordance with the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Receive the mission.
- 2. Conduct mechanical proof of breached lane, as required.
- 3. Conduct manual proof of breached lane, as required.
- 4. Submit required reports.

RELATED EVENTS:

1302-DEMO-1001	1302-DEMO-1002	1302-MOBL-1004
1302-MOBL-1005	1302-MOBL-1009	1302-MOBL-1010
1371-DEMO-1001	1371-DEMO-2002	1371-DEMO-2003
1371-DEMO-2004	1371-DEMO-2005	1371-MOBL-1001
1371-MOBL-1002	1371-MOBL-1003	1371-MOBL-2012
1371-MOBL-2017	1371-MOBL-2019	1371-MOBL-2020
1371-MOBL-2022	1371-MOBL-2023	1371-MOBL-2035

REFERENCES:

- 1. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 2. MCWP 3-1 Ground Combat Operations
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.4 Engineer Reconnaissance
- 5. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
M032 Charge, Demolition Block TNT 1-Pound	20 charges per Team
M130 Cap, Blasting Electric M6	60 blasting caps per Team
M456 Cord, Detonating PETN Type I Class E	1000 FT per Team
M670 Fuse, Blasting Time M700	500 FT per Team
M757 Charge, Assembly Demolition M183 Com	2 charges per Team
MN08 Igniter, Time Blasting Fuse with Sho	100 igniters per Team
MN88 Cap, Blasting, 500 ft mini-tube M21	10 igniters per Team
MN90 Cap, Blasting, 1000 ft mini-tube M23	10 blasting caps per Team

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat Engineer breaching assets, mine detectors, Demo kit.

UNITS/PERSONNEL: Range Safety officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

<u>CAB-MOBL-3005</u>: Mark a lane through an obstacle

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Mark a lane through an obstacle to identify a breached lane for rapid passage of the force.

CONDITION: Given a proofed lane, task organized equipment and personnel, and references.

STANDARD: To identify a breached lane for rapid passage of assault force in accordance with the commander's intent and the concept of operations.

EVENT COMPONENTS:

- 1. Receive the mission.
- 2. Mark the breached lane.
- 3. Submit required reports.

RELATED EVENTS:

1302-MOBL-1005 1371-MOBL-2012 1371-MOBL-2017

- 1. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 2. MCWP 3-1 Ground Combat Operations
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.3 MAGTF Breaching Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: HEMMS kit and mine field marking kit.

UNITS/PERSONNEL: Range Safety Officer, Corpsman

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event.

<u>CAB-MOBL-3006</u>: Remotely detect explosive hazards

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Remotely detect explosive hazards using engineer robotics systems to detect explosive hazards, positively identify and mark explosive hazards within engineer scope/capabilities.

CONDITION: Given a tactical situation, robot, an order, combat engineer equipment, field protective equipment, a suspected explosive hazard, commander's decision and references.

STANDARD: To positively identify and mark the explosive hazard in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Re-deploy to safe standoff distance.
- 2. Set security.
- 3. Evaluate micro-terrain.
- 4. Robot team prepare robot for operation.
- 5. Operate the robot.
- 6. Conduct robotic reconnaissance.
- 7. Mark explosive hazard, as required.
- 8. Submit report, as required.

RELATED EVENTS:

1302-MOBL-1008 1302-MOBL-1009 1371-MOBL-2035

REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer robot.

CAB-MOBL-3007: Remotely reduce explosive hazards

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Remotely reduce explosive hazards using engineer robotics systems to reduce/destroy explosive hazards after positive identification of explosive hazard has been established and with engineer scope/capabilities.

<u>CONDITION</u>: Given a tactical situation, robot, a positively identified explosive hazard, an order, combat engineer equipment, Class V supplies, field protective equipment, commander's decision and references.

STANDARD: By calculating, placing and detonating an explosive charge that will result in the reduction of the explosive hazard and allow for assured mobility.

EVENT COMPONENTS:

- 1. Evaluate go/no go criteria per the explosive hazard decision matrix.
- 2. Employ protective measures.
- 3. Build a charge.
- 4. Prepare robot for operation.
- 5. Remotely place the charge.
- 6. Detonate the charge.
- 7. Remotely verify destruction of explosive hazard.
- 8. Submit report, as required.

RELATED EVENTS:

1302-DEMO-1002	1302-DEMO-1004	1302-MOBL-1004
1302-MOBL-1008	1302-MOBL-1009	1371-MOBL-2020
1371-MOBL-2023		

REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions

4. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC
M670 Fuse, Blasting Time M700Quantity
1500 FT per TeamM757 Charge, Assembly Demolition M183 Com
MN08 Igniter, Time Blasting Fuse with Sho1 charges per TeamMN88 Cap, Blasting, 500 ft mini-tube M212 blasting caps per TeamMN90 Cap, Blasting, 1000 ft mini-tube M2315 blasting caps per Team

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer robot.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CAB-MOBL-3008: Employ a medium machinegun team

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 3 months

DESCRIPTION: Employ a medium machinegun team in a mounted or dismounted position.

CONDITION: Given an operations order, a medium machinegun team, mounted, sectors of fire, targets, FPF, and while wearing fighting loads.

STANDARD: To support the scheme of maneuver in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Emplace/mount the weapon.
- 3. Engage targets.
- 4. Control fires as directed.
- 5. Displace according to scheme of maneuver.
- 6. Prepare for follow-on missions.

REFERENCES:

1. MCWP 3-15.1 Machine Guns and Machine Gun Gunnery

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC

A064 Cartridge, 5.56mm 4 Ball M855/1 Trac

A131 Cartridge, 7.62mm 4 Ball M80/1 Trace

A135 Cartridge, 7.62mm Dummy M63

Quantity

456 rounds per Team

882 rounds per Team

12 rounds per Team

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17581 Machine Gun Field Fire Range

EQUIPMENT: PPE

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: This task should be trained on the ISMT before expending live rounds. This task can be accomplished using training rounds. This task can be sustained through ISMT. Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

<u>CAB-MOBL-3009</u>: Employ a heavy machinegun team

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Employ a heavy machinegun team in a mounted/dismounted position.

CONDITION: Given an operations order, a heavy machinegun team, mounted, sectors of fire, targets, FPF, and while wearing fighting loads.

STANDARD: To support the scheme of maneuver.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Emplace/mount the weapon.
- 3. Engage targets.
- 4. Control fires as directed.
- 5. Displace according to scheme of maneuver.
- 6. Prepare for follow-on missions.

REFERENCES:

1. MCWP 3-15.1 Machine Guns and Machine Gun Gunnery

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC		<u>Quantity</u>
A560 Cartridge,	Caliber .50 Dummy M2	20 rounds per Team
A576 Cartridge,	Caliber .50 4 API M8/1 AP	604 rounds per Team
B472 Cartridge,	40mm Dummy M922	20 rounds per Team
B542 Cartridge,	40mm HEDP M430/M430A1 Lin	254 rounds per Team
BA21 Cartridge,	40mm Practice (Day/Night)	32 rounds per Team

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17581 Machine Gun Field Fire Range

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

OTHER SUPPORT REQUIREMENTS: ORM

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: This task should be trained on the ISMT before expending live rounds. This task can be accomplished using training rounds. This task can be sustained through ISMT. Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CAB-MOBL-3010: Fell standing timber

SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2 MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Clear a forested area in support of operations.

CONDITION: Given an operations order, standing timber, appropriate hand tools, an SL-3 complete chainsaw, mixed fuel, personnel, and all personal protective equipment (PPE).

STANDARD: To clear a forested area in support of operations in accordance with the concept of operations and the commander's intent.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Determine equipment required.
- 3. Calculate time required.
- 4. Prepare equipment for operation.
- 5. Move to site.
- 6. Establish safety zone.
- 7. Cut timber.
- 8. Submit required reports.

RELATED EVENTS:		
1302-CMOB-1001	1302-SURV-1001	1310-ADMN-2002
1310-ADMN-2004	1310-ADMN-2009	1310-ADMN-2010
1310-HEOP-2001	1310-MANT-2002	1345-HEOP-1004
1345-HEOP-1005	1345-MANT-1001	1345-MANT-2001
1349-ADMN-2004	1349-ADMN-2009	1349-ADMN-2010
1349-HEOP-2001	1349-MANT-2002	1371-CMOB-2001
1371-EOPS-1002	1371-EOPS-1003	1371-EOPS-2008

- 1. Appropriate TM/Manufacture's Manual for Chainsaw
- 2. MCRP 3-17A Engineering Field Data
- 3. MCRP 3-17B Engineer Forms and Reports

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
$\overline{\text{M023}}$ Charge, Demolition Block M112 1-1/4	10 charges per Team
M032 Charge, Demolition Block TNT 1-Pound	10 charges per Team
M130 Cap, Blasting Electric M6	6 blasting caps per Team
M131 Cap, Blasting Non-Electric M7	6 blasting caps per Team
M456 Cord, Detonating PETN Type I Class E	1000 FT per Team
M591 Dynamite, Military M1	20 charges per Team
M670 Fuse, Blasting Time M700	500 FT per Team
MN08 Igniter, Time Blasting Fuse with Sho	10 igniters per Team
MN52 MK154 Mod 0	10 detonators per Team

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer tools and kits, HazMat containment kit, PPE.

OTHER SUPPORT REQUIREMENTS: ORM

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CAB-MOBL-3011: Operate small craft

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: NO **SUSTAINMENT INTERVAL:** 3 months

<u>DESCRIPTION</u>: Operate small craft to reconnoiter littoral areas in support of mobility requirements.

CONDITION: Given a mission, commander's intent, a map, task organization of

personnel and equipment, waterway to reconnaissance/scout, and the references.

STANDARD: To conduct an engineer reconnaissance of specified waterway, gather all relevant engineer data, produce a report in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Review the order.
- 2. Coordinate with supported unit.
- 3. Prepare equipment for operation.
- 4. Move to launch point.
- 5. Launch reconnaissance team.
- 6. Conduct reconnaissance mission.
- 7. Recover reconnaissance team.
- 8. Submit required reports.

PREREQUISITE EVENTS:

PREREQUISITE EVENTS:		
1342-MANT-1001	1342-MANT-1002	1342-MANT-1004
RELATED EVENTS:		
1302-MOBL-1015	1310-ADMN-2002	1310-ADMN-2004
1310-ADMN-2009	1310-MANT-2001	1310-MANT-2002
1342-MANT-1001	1342-MANT-1002	1342-MANT-1004
1342-MANT-1010	1349-ADMN-2002	1349-ADMN-2004
1349-ADMN-2009	1349-MANT-2001	1349-MANT-2002
1371-MOBL-1005	1371-MOBL-2003	1371-MOBL-2005
1371-MOBL-2005	1371-MOBL-2008	1371-MOBL-2008
1371-MOBL-2028		

REFERENCES:

- 1. MCWP 3-17.8 Combined Arms Mobility Operations
- 2. TM 09665 B-10/1 Combat Rubber Reconnaissance Craft Field Service Manual
- 3. TM 09665A-13&P/1-1 Operation and Maintenance of the Combat Rubber Reconnaissance Craft
- 4. TM 09665A-13&P/1-2 Operation and Maintenance of the Combat Rubber Reconnaissance Craft
- 5. TM 09665B The 55 HP Engine
- 6. TM 09665B/10717A Small Craft Propulsion System, CRRC

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17922 Floating Bridge Site

CAB-MOBL-3012: Conduct limited route clearance operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Conduct route clearance operations to clear all obstacles along a route. Obstacles may include mines, unexploded ordnance, improvised explosive devices, non-explosive obstacles, and damage to the route that

severely limits mobility. The route will only be "cleared" while it remains under the control/observation of friendly forces.

CONDITION: Provided a mission, a designated route with known/potential/suspected obstacle(s), personnel, engineer tools and equipment, intelligence support, demolition tools, explosives, and references.

STANDARD: To ensure friendly force mobility on the cleared route [friendly forces are not fixed, turned, blocked, nor disrupted] in accordance with the commanders intent, while the route remains in friendly forces control.

EVENT COMPONENTS:

- 1. Analyze route intelligence.
- 2. Task organize.
- 3. Coordinate with supported unit.
- 4. Coordinate with supporting units.
- 5. Detect obstacles on route.
- 6. Identify obstacle(s).
- 7. Mark obstacle(s), as required.
- 8. Reduce obstacle(s), as required.
- 9. Verify obstacle reduction.
- 10. Identify bypasses, as required.
- 11. Submit required reports.

RELATED EVENTS:

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1302-DEMO-1004	1302-MOBL-1003	1302-MOBL-1004
1302-MOBL-1008	1302-MOBL-1009	1302-MOBL-1010
1302-PLAN-2006	1371-MOBL-1002	1371-MOBL-1003
1371-MOBL-2012	1371-MOBL-2020	1371-MOBL-2021
1371-MOBL-2022	1371-MOBL-2023	1371-MOBL-2024
1371-MOBL-2025	1371-MOBL-2026	1371-MOBL-2027
1371-MOBL-2035		

REFERENCES:

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. GTA 5-7-13 Bridge Classification Booklet
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17.3 MAGTF Breaching Operations
- 7. MCWP 3-17.4 Engineer Reconnaissance
- 8. MCWP 3-17.8 Combined Arms Mobility Operations
- 9. MCWP 3-35.5 Jungle Operations
- 10. MCWP 3-35.6 Desert Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
$\overline{\text{M032}}$ Charge, Demolition Block TNT 1-Pound	10 charges per Team
M130 Cap, Blasting Electric M6	30 blasting caps per Team
M456 Cord, Detonating PETN Type I Class E	2000 FT per Team
M670 Fuse, Blasting Time M700	250 FT per Team

M757 Charge, Assembly Demolition M183 Com
MN08 Igniter, Time Blasting Fuse with Sho
MN88 Cap, Blasting, 500 ft mini-tube M21
MN90 Cap, Blasting, 1000 ft mini-tube M23

2 cases per Team
5 blasting caps per Team
10 blasting caps per Team

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer equipment, Engineer equipment

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CAB-MOBL-3013: Conduct area clearance operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Conduct area clearance operations to eliminate obstacle(s) [explosive or non-explosive] in a limited area to provide a secure environment.

<u>CONDITION</u>: Provided a mission, a designated area with known/potential/suspected obstacle(s), engineer tools and equipment, demolition tools, explosives, and references.

STANDARD: To eliminate obstacle(s) [explosive or non-explosive] in a limited area to provide a secure environment for operations in accordance with the commander's intent and mobility plan.

EVENT COMPONENTS:

- 1. Visually assess the terrain.
- 2. Sweep area.
- 3. Identify and confirm hazards.
- 4. Reduce explosive or non-explosive hazards.
- 5. Verify reduction of hazard.
- 6. Submit required reports.

RELATED EVENTS:

1302-MOBL-1003 1302-MOBL-1004 1302-MOBL-1005 1302-MOBL-1009 1302-MOBL-1010 1371-MOBL-2021

REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions

- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 3-17.3 MAGTF Breaching Operations
- 8. MCWP 3-17.4 Engineer Reconnaissance
- 9. MCWP 3-17.8 Combined Arms Mobility Operations
- 10. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 11. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
J143 Rocket Motor, 5-inch MK22 Mod 4	9 rocket per Platoon
M028 Demolition Kit, Bangalore Torpedo M1	3 cases per Platoon
M032 Charge, Demolition Block TNT 1-Pound	20 charges per Platoon
M130 Cap, Blasting Electric M6	30 blasting caps per Platoon
M131 Cap, Blasting Non-Electric M7	30 blasting caps per Platoon
M456 Cord, Detonating PETN Type I Class E	4000 FT per Platoon
M670 Fuse, Blasting Time M700	1500 FT per Platoon
M757 Charge, Assembly Demolition M183 Com	6 cases per Platoon
M913 Charge, Demolition High Explosive Li	6 charges per squad
M914 Charge, Demolition Inert Linear M68A	3 charges per squad
ML03 Firing Device, Demolition Multi-Purp	6 detonators per Platoon
MN08 Igniter, Time Blasting Fuse with Sho	50 igniters per Platoon
MN52 MK154 Mod 0	30 detonators per Platoon
MN79 Mine, Antipersonnel Obstacle Breachi	3 mines per Platoon

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer equipment, Engineer equipment.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

<u>CAB-RECN-3001</u>: Conduct gap reconnaissance

SUPPORTED MCT(S):

MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct gap reconnaissance to evaluate gaps and fording sites, identify obstacles, suitable bypasses, and record any other relevant engineer information on the appropriate reconnaissance forms.

CONDITION: Provided a mission, a tactical scenario, blank engineer reconnaissance forms, personnel, equipment, and reference.

STANDARD: To ensure the crossing is supportable and accounts for all tactical control measures in accordance with the concept of operations and the commander's intent.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Review the map of the route to be taken.
- 3. Proceed to assigned objective.
- 4. Reconnoiter gap, as required.
- 5. Determine wet gap fording/bridging sites, as required.
- 6. Identify suitable bypasses.
- 7. Submit required reports.

RELATED EVENTS:

<u> </u>		
1302-MOBL-1010	1302-MOBL-1011	1302-MOBL-1012
1302-MOBL-1013	1302-MOBL-1014	1302-MOBL-1015
1302-RECN-1001	1371-MOBL-2006	1371-MOBL-2007
1371-MOBL-2009	1371-MOBL-2017	1371-RECN-1001
1371-RECN-2001		

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. GTA 5-7-13 Bridge Classification Booklet
- 5. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 9. MCWP 3-1 Ground Combat Operations
- 10. MCWP 3-17.3 MAGTF Breaching Operations
- 11. MCWP 3-17.4 Engineer Reconnaissance
- 12. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17920 Panel Bridge Area

<u>CAB-RECN-3002</u>: Conduct ferry reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Conduct ferry reconnaissance to identify areas to be used to cross, evaluate ferry sites, identify obstacles, suitable bypasses, and record any other relevant engineer information on the appropriate reconnaissance forms.

<u>CONDITION</u>: Provided a mission, a tactical scenario, blank engineer reconnaissance forms (DA Form 1711-R), personnel, equipment, and references.

STANDARD: To ensure the crossing is supportable and accounts for all tactical control measures in accordance with the concept of operations and the commander's intent.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Review the map of the route to be taken.
- 3. Identify pre-existing ferrying sites/boat ramps.
- 4. Proceed to assigned objective.
- 5. Reconnoiter ferrying site, as required.
- 6. Determine ferrying sites, as required.
- 7. Identify suitable bypasses.
- 8. Submit required reports.

RELATED EVENTS:

1302-RECN-1001 1371-RECN-1001 1371-RECN-2001

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. GTA 5-7-13 Bridge Classification Booklet
- 5. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.1 River-Crossing Operations
- 10. MCWP 3-17.3 MAGTF Breaching Operations
- 11. MCWP 3-17.4 Engineer Reconnaissance

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17920 Panel Bridge Area

<u>CAB-RECN-3003</u>: Conduct cache sweep

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 3 months

DESCRIPTION: Conduct cache sweep operations in order to detect, identify and secure materials (documents, discs, tapes, weapons, explosives, ammunition, chemical materials, bombs, electronic equipment, etc.). Appropriate safety and evidentiary preservation measures should be employed during cache sweeps.

CONDITION: Provided a mission order, a mine detector, personnel, equipment, personal protective equipment, and references.

STANDARD: To locate, mark, and reduce all discovered IEDs, ordnance, mines, ammunition, weapons, and explosives per commander's intent and mission requirement.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Determine detector to be used.
- 3. Prepare equipment for operation.
- 4. Move to site.
- 5. Establish safety zone.
- 6. Conduct area sweep.
- 7. Locate and mark the object.
- 8. Identify the object.
- 9. Submit 9-line report.
- 10. Reduce or exploit, as required.
- 11. Submit required reports.

RELATED EVENTS:

1302-DEMO-1004	1302-MOBL-1002	1302-MOBL-1003
1302-MOBL-1009	1302-PLAN-2006	1371-MOBL-1002
1371-MOBL-1003	1371-MOBL-2018	1371-MOBL-2020
1371-MOBL-2021	1371-MOBL-2022	

REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
M032 Charge, Demolition Block TNT 1-Pound	20 charges per Team
M039 Charge, Demolition Cratering 40-Poun	1 charges per Team
M130 Cap, Blasting Electric M6	20 blasting caps per Team
M131 Cap, Blasting Non-Electric M7	10 blasting caps per Team
M456 Cord, Detonating PETN Type I Class E	1000 FT per Team
M670 Fuse, Blasting Time M700	500 FT per Team
MN08 Igniter, Time Blasting Fuse with Sho	20 igniters per Team

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer equipment, tools and kits.

<u>UNITS/PERSONNEL</u>: Range Safety Officer, Corpsman, EOD personnel, Weapons Intelligence Team.

OTHER SUPPORT REQUIREMENTS: ORM

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Quantities of ammunition, explosives and

pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CAB-RECN-3004: Conduct tunnel/cave reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 6 months

DESCRIPTION: Conduct tunnel/cave reconnaissance to determine essential information such as the serial number, location, type, length, width (including sidewalks), bypasses, alignment, gradient, and cross section.

CONDITION: Provided a mission, a tactical scenario, blank engineer reconnaissance forms (DA Form 1711-R), personnel, equipment, and references.

STANDARD: To evaluate tunnels/caves; identify obstacles, restrictions, and suitable bypasses; record any relevant engineer information on the appropriate reconnaissance forms and transfer to a map overlay using correct engineer/tactical symbols in accordance with the concept of operations.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Review the map of the route to be taken.
- 3. Proceed to assigned objective.
- 4. Reconnoiter tunnel/cave, as required.
- 5. Evaluate tunnel/cave, as required.
- 6. Identify suitable bypasses.
- 7. Submit required reports.

RELATED EVENTS:

1302-RECN-1001 1371-RECN-1001 1371-RECN-2001

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. GTA 5-7-13 Bridge Classification Booklet
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.3 MAGTF Breaching Operations
- 10. MCWP 3-17.4 Engineer Reconnaissance
- 11. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Motor Transport equipment, Range finder, Tape measure, Compass,

Protractor, Camera, Maps.

CAB-RECN-3005: Survey site for construction

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Survey site for construction to allow critical planning for construction and or operations in support of the GCE.

CONDITION: Provided a construction mission, a map, a scientific calculator, task organized personnel, equipment, and references.

STANDARD: To support commander's intent and mission requirements.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Move to survey site.
- 3. Reconnoiter project site, as required.
- 4. Submit required reports.

RELATED EVENTS:

1302-HORZ-1001	1302-PLAN-1002	1302-PLAN-2004
1302-VERT-1001	1361-SRVY-1001	1361-SRVY-1002
1361-SRVY-1003	1361-SRVY-1004	1361-SRVY-1005
1361-SRVY-1006	1361-SRVY-1007	1361-SRVY-1008
1361-SRVY-1009	1361-SRVY-1010	1361-SRVY-1011
1361-SRVY-1012	1361-SRVY-2002	1361-XENG-2001
1361-XENG-2002	1371-PLAN-2002	

REFERENCES:

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7D Concrete and Masonry
- 3. MCRP 3-17A Engineering Field Data
- 4. MCWP 3-17.4 Engineer Reconnaissance
- 5. NAVEDTRA 10696 Engineer Aid 3
- 6. TM 5-581B Construction Drafting
- 7. TM 5-704 Construction Print Reading in the Field

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

<u>CAB-RECN-3006</u>: Conduct obstacle reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Conduct obstacle reconnaissance to focus on answering obstacle

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intelligence IR-obstacle location, width, and depth; obstacle composition (wire, mines by type, and so forth.); soil conditions; locations of lanes and bypasses; and the location of enemy direct-fire systems.

<u>CONDITION</u>: Provided a mission, a tactical scenario, blank engineer reconnaissance forms (DA Form 1711-R), personnel, equipment, and references.

STANDARD: To identify obstacles; identify suitable bypasses; and record any other relevant engineer information on the appropriate reconnaissance forms per the references. All information will be transferred to a map overlay using correct engineer/tactical symbols.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Review the map of the route to be taken.
- 3. Proceed to assigned objective.
- 4. Determine obstacle type and location.
- 5. Reconnoiter obstacle, as required.
- 6. Locate and mark the object.
- 7. Identify the object.
- 8. Identify suitable bypasses.
- 9. Submit required reports.

RELATED EVENTS:

1302-RECN-1001 1371-RECN-1001 1371-RECN-2001

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. GTA 05-07-013 Bridge Classification Card (2006)
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.4 Engineer Reconnaissance
- 9. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17920 Panel Bridge Area

<u>CAB-RECN-3007</u>: Conduct bridge reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Conduct bridge reconnaissance to collect detailed technical

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information on selected bridges. This assessment provides the basic Military Load Classification (MLC) information necessary for the commander to plan for the use of the bridge.

<u>CONDITION</u>: Provided a mission, a tactical scenario, blank engineer reconnaissance forms (DA Form 1711-R and DA Form 1249), personnel, equipment, and references.

<u>STANDARD</u>: To classify bridges; identify obstacles, restrictions and suitable bypasses; and record any other relevant engineer information on the appropriate reconnaissance forms per the references. All information will be transferred to a map overlay using correct engineer/tactical symbols.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Review the map of the route to be taken.
- 3. Proceed to assigned objective.
- 4. Reconnoiter bridge.
- Classify bridge(s), as required.
- 6. Identify suitable bypasses.
- 7. Submit required reports.

RELATED EVENTS:

1302-RECN-1001 1371-RECN-1001 1371-RECN-2001

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. GTA 5-2-5 Engineer Reconnaissance
- 3. GTA 5-7-13 Bridge Classification Booklet
- 4. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 8. MCWP 3-1 Ground Combat Operations
- 9. MCWP 3-17 Engineering Operations
- 10. MCWP 3-17.3 MAGTF Breaching Operations
- 11. MCWP 3-17.4 Engineer Reconnaissance
- 12. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17920 Panel Bridge Area

EQUIPMENT: Motor Transport equipment, Range finder, Tape measure, Compass, Protractor, Camera, Maps.

CAB-RECN-3008: Conduct road reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Conduct road reconnaissance to collect detailed technical information on the engineering characteristics and trafficability of a road section within a route.

<u>CONDITION</u>: Provided a mission, a tactical scenario, blank engineer reconnaissance forms (DA Form 1711-R), personnel, equipment, and references.

STANDARD: To classify road or road section within a route; identify obstacles, restrictions, and suitable bypasses; and record any other relevant engineer information on the appropriate reconnaissance forms per the references. All information will be transferred to a map overlay using correct engineer/tactical symbols.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Review the map of the route to be taken.
- 3. Proceed to assigned objective.
- 4. Reconnoiter road and road section within a route, as required.
- 5. Classify road(s), as required.
- 6. Classify route(s), as required.
- 7. Identify suitable bypasses.
- 8. Submit required reports.

PREREQUISITE EVENTS: 1371-MOBL-1006

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.4 Engineer Reconnaissance
- 9. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

CAB-SURV-3001: Construct trenches

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Employ organic hand tools and/or earth moving assets, tools and equipment.

CONDITION: Given an operations order, personnel, and engineer equipment.

STANDARD: That allows multiple combatants' protection from direct fire weapons, affords a force the capability to engage targets from front and oblique's, meets or exceeds the mission requirement and supports the concept of operation in accordance with the commander's intent.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Calculate time required for construction.
- 3. Prepare equipment for operation.
- 4. Move to site.
- 5. Establish safety zone.
- 6. Dig emplacement, as required.
- 7. Displace equipment, as required.
- 8. Submit required reports.

RELATED EVENTS:

1302-SURV-1001	1310-HEOP-2001	1310-MANT-2002
1345-HEOP-1004	1345-HEOP-2005	1349-HEOP-2001
1349-MANT-2002	1371-SURV-1001	

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCRP 3-17A Engineering Field Data
- 3. MCRP 3-17B Engineer Forms and Reports
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.5 Combined Arms Countermobility Operations
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 8. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 9. MCWP 3-41.1 Rear Area Operations
- 10. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Engineer equipment

MATERIAL: Map, Compass, Protractor, Overlay Sheets, Reconnaissance Reports

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

CAB-SURV-3002: Construct shelters/bunkers

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Construct shelters/bunkers to provide combatant(s) and/or combat equipment cover from the elements, indirect/direct fire weapons.

CONDITION: Given an operations order, personnel, and engineer equipment.

STANDARD: That provides combatant(s) and/or combat equipment cover from the elements, indirect/direct fire weapons, and meets or exceeds the mission requirement and supports the concept of operation in accordance with the commander's intent.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Design position required.
- 3. Determine material required.
- 4. Calculate time required for construction.
- 5. Prepare equipment for operation.
- 6. Move to site.
- 7. Establish safety zone.
- 8. Construct shelter/bunker, as required.
- 9. Displace equipment, as required.
- 10. Submit required reports.

RELATED EVENTS:

KETHIED EAFMID:		
1302-CMOB-1001	1302-CMOB-1003	1302-SURV-1001
1302-SURV-1003	1310-HEOP-2001	1310-HORZ-2001
1310-HORZ-2002	1310-HORZ-2003	1310-MANT-2002
1316-ADMN-1001	1316-ADMN-2001	1316-ADMN-2002
1316-XENG-1001	1316-XENG-1006	1316-XENG-2002
1345-HEOP-1003	1345-HEOP-1004	1345-HEOP-1005
1345-HEOP-1007	1345-HEOP-2006	1345-HEOP-2007
1345-HEOP-2012	1345-MANT-1001	1345-MANT-2001
1349-HEOP-2001	1349-HORZ-2001	1349-HORZ-2002
1349-HORZ-2003	1349-MANT-2002	1371-CMOB-1001
1371-CMOB-1002	1371-CMOB-1003	1371-CMOB-2001
1371-CMOB-2002	1371-SURV-1001	1371-SURV-2001
1371-SURV-2002		

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-41.1 Rear Area Operations
- 8. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Engineer equipment and combat engineer tools and kits.

<u>MATERIAL</u>: Map, Compass, Protractor, Overlay sheets, Reconnaissance reports, Class IV materials as required.

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

CAB-SURV-3003: Construct vehicle survivability position/revetment

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Construct vehicle survivability position/revetment to increase vehicle survivability.

CONDITION: Given an operations order, personnel, engineer equipment, and materials.

STANDARD: To build vehicle survivability positions/revetments that meets or exceeds the mission requirement and support the concept of operation in accordance with the commander's intent.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Design position required.
- 3. Determine material required.
- 4. Calculate time required for construction.
- 5. Prepare equipment for operation.
- 6. Move to site.
- 7. Establish safety zone.
- 8. Construct Revetment, as required.
- 9. Displace equipment, as required.
- 10. Submit required reports.

RELATED EVENTS:

1302-SURV-1002	1310-ADMN-2004	1310-ADMN-2009
1310-ADMN-2010	1310-HEOP-2001	1310-HORZ-2001
1310-HORZ-2002	1310-HORZ-2003	1310-MANT-2002
1316-ADMN-2001	1316-ADMN-2002	1316-XENG-2002
1316-XENG-2005	1345-HEOP-1004	1345-HEOP-1005
1345-HEOP-1007	1345-HEOP-2006	1345-HEOP-2007
1345-HEOP-2012	1345-MANT-1001	1345-MANT-2001
1349-HEOP-2001	1349-HORZ-2001	1349-HORZ-2002
1349-HORZ-2003	1349-MANT-2002	1371-SURV-2001
	1310-ADMN-2010 1310-HORZ-2002 1316-ADMN-2001 1316-XENG-2005 1345-HEOP-1007 1345-HEOP-2012 1349-HEOP-2001	1310-ADMN-2010 1310-HEOP-2001 1310-HORZ-2002 1310-HORZ-2003 1316-ADMN-2001 1316-ADMN-2002 1316-XENG-2005 1345-HEOP-1004 1345-HEOP-2006 1345-HEOP-2012 1345-HEOP-2011 1349-HEOP-2001

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. GTA 05-08-001 Survivability Positions
- 4. MCRP 3-17.7C Carpentry
- 5. MCRP 3-17A Engineering Field Data
- 6. MCWP 3-17 Engineering Operations

- 7. MCWP 3-17.5 Combined Arms Countermobility Operations
- 8. MCWP 3-17.6 Survivability
- 9. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 10. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 11. MCWP 3-41.1 Rear Area Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Engineer equipment assets.

MATERIAL: Class IV supplies.

CAB-SURV-3004: Construct crew served weapons position

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Construct crew served weapons position to enable weapons to engage targets from front and oblique's.

CONDITION: Given an operations order, personnel, and engineer equipment.

<u>STANDARD</u>: That allows a weapons team the capability to engage targets from front and oblique's, and meets or exceeds the mission requirement and support the concept of operation in accordance with the commander's intent.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Prepare equipment for operation.
- 3. Move to site.
- 4. Establish safety zone.
- 5. Dig emplacement, as required.
- 6. Displace equipment, as required.
- 7. Submit required reports.

RELATED EVENTS:

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1302-SURV-1002	1310-ADMN-2004	1310-ADMN-2009
1310-ADMN-2010	1310-HEOP-2001	1310-HORZ-2001
1310-HORZ-2002	1310-HORZ-2003	1310-MANT-2002
1316-ADMN-2001	1316-ADMN-2002	1316-XENG-2002
1316-XENG-2005	1345-HEOP-1004	1345-HEOP-1005
1345-HEOP-1007	1345-HEOP-2006	1345-HEOP-2007
1345-HEOP-2012	1345-MANT-1001	1345-MANT-2001
1349-HEOP-2001	1349-HORZ-2001	1349-HORZ-2002
1349-HORZ-2003	1349-MANT-2002	1371-SURV-2001

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration

- 3. MCRP 3-17A Engineering Field Data
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 7. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 8. MCWP 3-41.1 Rear Area Operations
- 9. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Engineer equipment, Combat engineer tools & kits.

MATERIAL: Map, Compass, Protractor, Overlay sheets, Reconnaissance reports, Class IV supplies as required.

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM.

CAB-SURV-3005: Construct overhead cover

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Construct overhead cover that meets or exceeds the maximum threat capability of enemy weapons systems.

CONDITION: Given an operations order, personnel, and engineer equipment.

STANDARD: To design specifications that meets or exceeds the maximum threat capability of enemy weapons systems in accordance with the concept of operations.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Design position required.
- 3. Determine material required.
- 4. Calculate time required for construction.
- 5. Prepare equipment for operation.
- 6. Move to site.
- 7. Establish safety zone.
- 8. Construct overhead cover, as required.
- 9. Displace equipment, as required.
- 10. Submit required reports.

RELATED EVENTS:

1302-SURV-1001	1310-ADMN-2004	1310-ADMN-2009
1310-ADMN-2010	1310-HEOP-2001	1310-MANT-2002
1316-ADMN-1001	1316-ADMN-1002	1316-ADMN-2001

1316-ADMN-2002	1316-XENG-1001	1316-XENG-1006
1316-XENG-2002	1345-HEOP-1003	1345-HEOP-1004
1345-HEOP-2007	1345-HEOP-2012	1345-MANT-1001
1345-MANT-2001	1349-ADMN-2004	1349-ADMN-2009
1349-ADMN-2010	1349-HEOP-2001	1349-MANT-2002
1371-SURV-1001	1371-SURV-1001	1371-SURV-2001

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 8. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 9. MCWP 3-41.1 Rear Area Operations
- 10. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Engineer equipment and combat engineer tools & kits.

<u>MATERIAL</u>: Map, Compass, Protractor, Overlay Sheets, Reconnaissance Reports, Class IV supplies as required.

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

CAB-SURV-3006: Construct individual fighting position

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Construct individual fighting positions and/or trenches to protect one or more dismounted Marines armed with individual weapons, while supporting their ability to engage the enemy. Fighting positions typically consist of a hole in the ground, supplemented with frontal, overhead, and flank or rear cover as the time and situation permits. Trenches typically connect fighting positions, C2 nodes and logistical hubs while providing cover from enemy observation and direct/indirect fire.

CONDITION: Given an operations order, personnel, and engineer equipment.

<u>STANDARD</u>: Positions are planned and designed so that they are concealed, mutually supporting, and have interlocking fields of fire in all directions and protect occupants against enemy direct-fire weapons systems.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Prepare equipment for operation.
- 3. Move to site.
- 4. Establish safety zone.
- 5. Dig emplacement, as required.
- 6. Displace equipment, as required.
- 7. Submit required reports.

RELATED EVENTS:

1302-SURV-1001	1310-ADMN-2004	1310-ADMN-2009
1310-ADMN-2010	1310-HEOP-2001	1310-MANT-2002
1345-HEOP-1003	1345-HEOP-1004	1345-HEOP-1005
1345-HEOP-2012	1345-MANT-1001	1371-SURV-1001
1371-SURV-2001		

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 8. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 9. MCWP 3-41.1 Rear Area Operations
- 10. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Engineer equipment, Combat engineer tools & kits

MATERIAL: Map, Compass, Protractor, Overlay sheets, Reconnaissance
reports, Class IV materials as required.

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

CAB-SURV-3007: Construct triggering screen

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Triggering screens are built separately or added on to existing structures and used to activate the fuze of an incoming shell or projectile at a designated standoff distance from the structure.

CONDITION: Given an operations order, personnel, and engineer equipment.

STANDARD: So that it provides an effective screen against enemy weapons systems.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Design position required.
- 3. Determine material required.
- 4. Calculate time required for construction.
- 5. Prepare equipment for operation.
- 6. Move to site.
- 7. Establish safety zone.
- 8. Construct blast screen, as required.
- 9. Displace equipment, as required.
- 10. Submit required reports.

RELATED EVENTS:

1302-SURV-1001 1302-SURV-1002 1371-SURV-1001 1371-SURV-2001

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 8. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 9. MCWP 3-41.1 Rear Area Operations
- 10. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Engineer equipment, Combat engineer tools & kits

MATERIAL: Map, Compass, Protractor, Overlay sheets, Reconnaissance reports, Class IV materials, as required.

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

CAB-SURV-3008: Construct vehicle fighting position

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 12 months

<u>DESCRIPTION</u>: Construct vehicle fighting position to increase vehicle survivability.

 $\underline{\text{CONDITION}}$: Given an operations order, personnel, engineer equipment, and materials.

STANDARD: That meets or exceeds the mission requirement for the specified vehicle/weapons system in accordance with the concept of operations.

EVENT COMPONENTS:

- 1. Review the mission.
- 2. Coordinate with supported unit.
- 3. Prepare equipment for operation.
- 4. Move to site.
- 5. Establish safety zone.
- 6. Dig emplacement as required per vehicle type and weapon employment.
- 7. Displace equipment, as required.
- 8. Submit required reports.

RELATED EVENTS:

1302-SURV-1002	1310-HEOP-2001	1310-HORZ-2001
1310-HORZ-2002	1310-HORZ-2003	1310-MANT-2002
1345-HEOP-1004	1345-HEOP-1005	1345-HEOP-1007
1345-HEOP-2006	1345-HEOP-2007	1345-HEOP-2012
1345-MANT-1001	1349-HEOP-2001	1349-HORZ-2001
1349-HORZ-2002	1349-HORZ-2003	1349-MANT-2002
1371-SURV-2001		

REFERENCES:

- 1. MCRP 3-17A Engineering Field Data
- 2. MCWP 3-17 Engineering Operations
- 3. MCWP 3-17.6 Survivability
- 4. MCWP 3-41.1 Rear Area Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Engineer equipment assets.

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM.

CAB-UTIL-3001: Establish tactical power distribution system

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 6 months

<u>DESCRIPTION</u>: Provide the appropriate power distribution equipment to establish a tactical electric grid in order to distribute electric power that meets operational requirement and commander's intent.

CONDITION: With a utilities plan, required equipment and personnel.

STANDARD: To accomplish operational requirements and commanders intent.

EVENT COMPONENTS:

- 1. Coordinate with supported unit(s).
- 2. Determine load requirements.
- 3. Plan power distribution system(s).
- 4. Set up distribution system(s).
- 5. Inspect grounding and connections.
- 6. Energize system(s).
- 7. Test system(s).

RELATED EVENTS:

1141-ADMN-1002	1141-ADMN-1006	1141-MANT-1101
1141-MANT-1224	1141-MANT-2244	1141-XENG-1601
1141-XENG-1624	1141-XENG-1703	1141-XENG-2501
1141-XENG-2521	1141-XENG-2621	1141-XENG-2622
1141-XENG-2623	1141-XENG-2721	1141-XENG-2821
	1141-ADMN-1002 1141-MANT-1224 1141-XENG-1624 1141-XENG-2521 1141-XENG-2623	1141-MANT-1224

REFERENCES:

- 1. Appropriate Technical Manuals
- 2. FM 5-424 Theater of Operations Electrical Systems
- 3. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 4. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Power Distribution Systems, Power Generation Systems, PPE, MHE, Motor Transport equipment, HazMat Containment Kit

CAB-UTIL-3002: Provide floodlight support

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Provide illumination during low light conditions in order to meet mission requirements and commander's intent.

CONDITION: With an operational order, required equipment and personnel

STANDARD: To properly illuminate required area.

EVENT COMPONENTS:

- 1. Coordinate with Supported unit(s).
- 2. Establish illumination plan.
- Set up floodlight set(s).
- 4. Operate a floodlight.
- Recover floodlight set(s).

RELATED EVENTS:

1141-ADMN-1006	1141-ADMN-1007	1141-ADMN-1008
1141-ADMN-1009	1141-MANT-1247	1141-XENG-1703
1141-XENG-1747	1141-XENG-2622	

REFERENCES:

- 1. FM 5-424 Theater of Operations Electrical Systems
- 2. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: PPE, tools and kits.

CAB-UTIL-3003: Establish power generation site(s)

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Provide the appropriate power generation equipment to establish a/or generator site(s) that meets the operational requirement and commander's intent.

CONDITION: With a utilities plan, required equipment and personnel

STANDARD: To ensure operational requirements are met.

EVENT COMPONENTS:

- 1. Coordinate with supported unit(s).
- 2. Set up generator site(s).
- 3. Inspect grounding and connections.
- 4. Energize system(s).
- 5. Perform operational check(s).
- 6. Test system.

RELATED EVENTS:

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1141-ADMN-1006	1141-ADMN-1007	1141-ADMN-1008
1141-ADMN-1009	1141-MANT-1101	1141-XENG-1601
1141-XENG-1618	1141-XENG-1751	1141-XENG-1752
1141-XENG-1753	1141-XENG-1754	1141-XENG-1757
1141-XENG-1763	1141-XENG-1765	1141-XENG-1795
1141-XENG-2622	1141-XENG-2718	1141-XENG-2737
1141-XENG-2750	1141-XENG-2755	

REFERENCES:

- 1. Appropriate Technical Manuals
- 2. FM 5-424 Theater of Operations Electrical Systems
- 3. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment

4. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Power Generation Systems, PPE, MHE, Motor Transport equipment, HazMat Containment Kit.

CAB-UTIL-3004: Wire a structure for electricity

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Install interior electrical wiring in order to distribute electricity to meet electrical power requirements.

CONDITION: Provided a mission, resources, required equipment, and personnel.

STANDARD: To establish operational power per commander's intent to support mission requirements.

EVENT COMPONENTS:

- 1. Coordinate with supported unit(s).
- 2. Estimate and requisition materials, as required.
- 3. Calculate time required to wire structure.
- 4. Gather tools and materials.
- 5. Set safety zone, lockout and tagout any preexisting electrical circuits that will be worked on, as required.
- 6. Verify the location of preexisting underground utility lines.
- 7. Install electrical boxes, interior/exterior wiring, service feeder, service entrance cables and main and sub panel boxes, as required.
- 8. Install equipment and system grounding, as required.
- 9. Request qualified inspector to complete uncovered/rough-in electrical inspection.
- 10. Install devices, circuit breakers, fixtures and electrical equipment, as required.
- 11. Request qualified inspector to complete final electrical inspection.
- 12. Request qualified personnel to connect service feeder to appropriate transformer or power generation, as required.
- 13. Energize and test electrical system.
- 14. Submit required reports.

RELATED EVENTS:

1141-ADMN-1002	1141-ADMN-2031	1141-MANT-1101
1141-XENG-1601	1141-XENG-1703	1141-XENG-1961
1141-XENG-1962	1141-XENG-2561	1141-XENG-2622
1141-XENG-2623	1141-XENG-2694	1141-XENG-2696
1141-XENG-2963	1141-XENG-2964	1141-XENG-2965
1141-XENG-2966		

- 1. 29 CFR 1910.147 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 147 Control of Hazardous Energy (Lockout/Tagout)
- 2. 29 CFR 1910.269 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 269 Electrical Power Generation, Transmission, and Distribution
- 3. 29 CFR 1910.301-399 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Subpart S, (Standard Numbers 301-399) Electrical
- 4. FM 5-424 Theater of Operations Electrical Systems
- 5. NEC (NFPA 70) National Electrical Code by National Fire Protection Association

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Electrical materials (as required), PPE, tools and kits.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Final inspection must be performed by a qualified inspector who is a graduate of one or more listed courses: Advanced Electrician (AE), Utilities Chief (UC), or Utilities Officer (UO) Course.

<u>CAB-UTIL-3005</u>: Produce potable water

SUPPORTED MCT(S): MCT 1.1.2

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Produce and store, potable water in order to meet mission requirements.

CONDITION: With a utilities plan, required equipment and personnel.

STANDARD: To ensure operational requirements are met.

EVENT COMPONENTS:

- 1. Perform water recon.
- 2. Establish water point.
- 3. Produce potable water.
- 4. Test water for potability.

RELATED EVENTS:

1171-ADMN-1006	1171-ADMN-1007	1171-ADMN-1008
1171-ADMN-1009	1171-MANT-1282	1171-XENG-1782
1171-XENG-2501	1171-XENG-2502	1171-XENG-2553
1171-XENG-2651	1171-XENG-2653	1171-XENG-2752
1171-XENG-2753	1171-XENG-2754	1171-XENG-2853

- 1. Appropriate Technical Manuals
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 5. TB MED 577 Occupational and Environmental Health Sanitary Control and Surveillance of Field Water Supplies

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17924 Water Supply Training Area

EQUIPMENT: Utilities equipment with supplemental kits (cartridges, NBC filters etc.), MHE, water testing kit, tool kits, PPE

MATERIAL: Chemicals to purify raw water source.

<u>UNITS/PERSONNEL</u>: Note: Request Navy Medical Technician and Preventive Medicine Technician (PMT) as required.

CAB-UTIL-3006: Store potable water

SUPPORTED MCT(S): MCT 1.1.2

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Store potable water in order to meet mission requirements.

CONDITION: With a utilities plan, required equipment and personnel.

STANDARD: To ensure operational requirements are met.

EVENT COMPONENTS:

- 1. Determine storage requirements.
- 2. Establish storage site(s).
- 3. Test water for potability.
- 4. Store water for distribution.

RELATED EVENTS:

1171-ADMN-1006	1171-ADMN-1007	1171-ADMN-1008
1171-MANT-1241	1171-MANT-1248	1171-MANT-1277
1171-MANT-1278	1171-MANT-1284	1171-MANT-1285
1171-XENG-1677	1171-XENG-1678	1171-XENG-1684
1171-XENG-1685	1171-XENG-1702	1171-XENG-2553
1171-XENG-2752	1171-XENG-2753	1171-XENG-2853

REFERENCES:

- 1. Appropriate Technical Manuals
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 5. TB MED 577 Occupational and Environmental Health Sanitary Control and Surveillance of Field Water Supplies

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17924 Water Supply Training Area

EQUIPMENT: Utilities potable storage equipment, MHE, water testing kit,

tool kits, PPE

MATERIAL: Chemicals to sustain potable water.

<u>UNITS/PERSONNEL</u>: Note: Request Navy Medical Technician and Preventive Medicine Technician (PMT) as required.

CAB-UTIL-3007: Establish water distribution site

SUPPORTED MCT(S): MCT 1.1.2

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Establish an accessible potable water distribution site for the supported unit in order to meet mission requirements.

CONDITION: With a utilities plan, required equipment and personnel

STANDARD: To ensure operational requirements are met.

EVENT COMPONENTS:

- 1. Determine water requirements.
- 2. Set up distribution system(s).
- 3. Inspect system(s).
- 4. Test water for potability.
- 5. Distribute potable water.

RELATED EVENTS:

RELATED EVENTS:		
1171-ADMN-1006	1171-ADMN-1007	1171-ADMN-1008
1171-ADMN-1009	1171-MANT-1241	1171-MANT-1248
1171-MANT-1271	1171-MANT-1272	1171-MANT-1274
1171-MANT-1277	1171-MANT-1278	1171-MANT-1279
1171-MANT-1280	1171-MANT-1284	1171-MANT-1285
1171-XENG-1648	1171-XENG-1677	1171-XENG-1678
1171-XENG-1680	1171-XENG-1684	1171-XENG-1685
1171-XENG-1702	1171-XENG-1748	1171-XENG-1771
1171-XENG-1772	1171-XENG-1774	1171-XENG-1779
1171-XENG-2752	1171-XENG-2753	1171-XENG-2754
1171-XENG-2853		

REFERENCES:

- 1. Appropriate Technical Manuals
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 5. TB MED 577 Occupational and Environmental Health Sanitary Control and Surveillance of Field Water Supplies

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17924 Water Supply Training Area

EQUIPMENT: Utilities equipment, water testing kit, PPE, MHE, motor

transport, tool kits, appropriate POLs

MATERIAL: Chemicals to sustain potable water.

<u>UNITS/PERSONNEL</u>: Note: Request Navy Medical Technician and Preventive Medicine Technician (PMT) as required.

CAB-UTIL-3008: Provide laundry services

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Provide laundry services to meet mission requirements and commander's intent.

CONDITION: With a utilities plan, required equipment and personnel.

STANDARD: To ensure operational requirements are met.

EVENT COMPONENTS:

- 1. Coordinate with Supported unit(s).
- 2. Establish laundry facilities.
- 3. Implement laundry schedule.
- 4. Operate laundry unit(s).

RELATED EVENTS:

1171-ADMN-1006	1171-ADMN-1007	1171-ADMN-1008
1171-ADMN-1009	1171-MANT-1232	1171-MANT-1278
1171-MANT-1284	1171-MANT-1285	1171-XENG-1632
1171-XENG-1678	1171-XENG-1684	1171-XENG-1685
1171-XENG-1732	1171-XENG-2555	1171-XENG-2655
1171-XENG-2755		

REFERENCES:

1. MCRP 4-11.1D Field Hygiene and Sanitation

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Utilities equipment, PPE, MHE, motor transport, tool kits

MATERIAL: Laundry detergent, gravel, lime, insecticide

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Note: Water does not have to be completely potable-untreated Class III fresh water can be utilized.

CAB-UTIL-3009: Provide shower services

SUPPORTED MCT(S): MCT 4.4.3

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Provide shower services to meet mission requirements and commander's intent.

CONDITION: With a utilities plan, required equipment and personnel.

STANDARD: To ensure operational requirements are met.

EVENT COMPONENTS:

- 1. Coordinate with supported unit(s).
- 2. Establish shower facilities.
- 3. Implement shower schedule.
- 4. Operate shower unit(s).

RELATED EVENTS:

L171-ADMN-1006	1171-ADMN-1007	1171-ADMN-1008
L171-ADMN-1009	1171-MANT-1231	1171-MANT-1278
L171-XENG-1631	1171-XENG-1678	1171-XENG-1731
L171-XENG-2555	1171-XENG-2655	1171-XENG-2755
L171-XENG-2855		

REFERENCES:

1. MCRP 4-11.1D Field Hygiene and Sanitation

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light

EQUIPMENT: Utilities equipment, PPE, MHE, motor transport, tool kits, POLs.

MATERIAL: Building material, cleaning supplies, lime, insecticide, gravel

UNITS/PERSONNEL: Note: Water must be potable (class I) for showers.

CAB UTIL 3010: Install plumbing in a structure

SUPPORTED MCT(S): MCT 4.4.3

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: As a CAB unit (fire team) in support of the MAGTF, install piping system in order to meet plumbing requirements and commander's intent.

CONDITION: Provided a mission, resources, required equipment, and personnel.

STANDARD: To establish water and sewer services per commanders intent to support mission requirements.

EVENT COMPONENTS:

- 1. Coordinate with supported unit(s).
- 2. Estimate and requisition materials, as required.
- 3. Calculate time required to plumb structure.
- 4. Gather tools and materials.
- 5. Set safety zone.
- 6. Verify the location of preexisting underground utility lines.
- 7. Install interior/exterior drainage plumbing system with appropriately sized vent(s), trap(s) and cleanout(s).
- 8. Pressurize drainage system to identify possible leaks.
- Install hot and cold water supply lines with shut-off and relief valve(s), as required.
- 10. Request qualified inspector to complete uncovered/rough-in plumbing inspection.
- 11. Install plumbing fixtures.
- 12. Request qualified personnel to install water meter and shut-off valve, as required.
- 13. Connect structure main water supply line to water meter, as required.
- 14. Request qualified personnel to install sewer/septic system, as required.
- 15. Connect structure main sanitation pipe(s) to sewer/septic system, as required.
- 16. Request qualified inspector to complete final plumbing inspection.
- 17. Submit required reports.

RELATED EVENTS:

1171-ADMN-1006	1171-XENG-1981	1171-XENG-1982
1171-XENG-1984	1171-XENG-1985	1171-XENG-1986
1171-XENG-2581	1171-XENG-2983	1171-XENG-2987
1171-XENG-2988	1171-XENG-2989	

REFERENCES:

1. UPC (IAPMO/ANSI) Uniform Plumbing Code - by International Association of Plumbing and Mechanical Officials/American National Standard Institute

SUPPORT REQUIREMENTS:

EQUIPMENT: PPE, tools and kits

MATERIAL: Building materials

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Final inspection must be performed by a qualified inspector who is a graduate of one or more listed courses: Advanced Water Support Technician (AWST), Utilities Chief (UC), or Utilities Officer (UO) Course.

ENG & UTIL T&R MANUAL

CHAPTER 4

CEB COLLECTIVE EVENTS

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ENG & UTIL T&R MANUAL

CHAPTER 4

CEB COLLECTIVE EVENTS

- **4000. PURPOSE.** Chapter 4 contains collective training events for the Combat Engineer Battalion (CEB).
- **4001. EVENT CODING.** Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX-XXXX. This chapter utilizes the following methodology:
- a. Field one. This field represents the community. This chapter contains the following community codes:

Code CEB Description Combat Engineer Battalion

b. Field two. This field represents the functional/duty area. This chapter contains the following functional/duty areas:

ADMN - Administration

CMOB - Countermobility

DEMO - Demolitions

EOPS - Engineer Operations

HEOP - Heavy Equipment Operations

HORZ - Horizontal Construction

MANT - Maintenance

MOBL - Mobility

PINF - Provisional Infantry

PLAN - Planning

RECN - Engineer Reconnaissance

SURV - Survivability

UTIL - Utilities

VERT - Vertical Construction

c. Field three. This field provides the level at which the event is accomplished and numerical sequencing of events. This chapter contains the following event levels:

Code	Description
7000	Battalion Level
6000	Company Level
5000	Platoon Level
4000	Squad Level
3000	Team Level

4002. INDEX OF COLLECTIVE EVENTS

EVENT	E- CODED	DESCRIPTION	PAGE
	I	7000-LEVEL EVENTS	I
CEB-ADMN-7001	YES	Command and control engineer forces	4-5
CEB-EOPS-7001	YES	Train engineer forces	4-6
CEB-PLAN-7001	YES	Plan engineer operations	4-7
	1	6000-LEVEL EVENTS	1
CEB-ADMN-6001	YES	Command and control engineer forces	4-8
CEB-CMOB-6001	YES	Conduct countermobility operations	4-9
CEB-EOPS-6001	YES	Train engineer forces	4-10
CEB-EOPS-6002	NO	Conduct limited general engineering	4-11
		operations	
CEB-MOBL-6001	YES	Conduct mobility operations	4-13
CEB-PINF-6001	YES	Provide provisional infantry	4-14
CEB-PLAN-6001	NO	Plan engineer operations	4-15
CEB-SURV-6001	YES	Conduct survivability operations	4-16
	1	5000-LEVEL EVENTS	1
CEB-CMOB-5001	YES	Create an obstacle group	4-17
CEB-DEMO-5001	YES	Conduct demolition operations	4-18
CEB-HEOP-5001	YES	Provide engineer equipment support	4-19
CEB-HORZ-5001	NO	Conduct horizontal construction	4-20
CEB-HORZ-5002	NO	Prepare site for construction	4-22
CEB-MANT-5001	YES	Maintain engineer equipment	4-23
CEB-MOBL-5001	YES	Conduct obstacle breaching operations	4-25
CEB-MOBL-5002	YES	Conduct route clearance operations	4-26
CEB-MOBL-5003	NO	Construct expedient Helicopter Landing Zone	4-27
022 11022 0000	1.0	(HLZ)	/
CEB-MOBL-5004	NO	Construct combat roads	4-28
CEB-PINF-5001	YES	Fight as provisional infantry	4-30
CEB-RECN-5001	YES	Conduct engineer reconnaissance	4-31
CEB-RECN-5002	YES	Conduct cache sweep operations	4-32
CEB-SURV-5001	YES	Construct survivability positions	4-33
CEB-UTIL-5001	YES	Provide utilities support	4-35
CEB-VERT-5001	NO	Conduct vertical construction	4-37
		4000-LEVEL EVENTS	
CEB-CMOB-4001	YES	Create an explosive obstacle	4-38
CEB-CMOB-4002	YES	Create non-explosive obstacles/barriers	4-40
CEB-CMOB-4003	YES	Employ demolitions in support of	4-42
		countermobility operations	
CEB-HEOP-4001	YES	Conduct MHE operations	4-43
CEB-MANT-4001	YES	Maintain engineer equipment	4-44
CEB-MOBL-4001	YES	Conduct deliberate breach	4-45
CEB-MOBL-4002	YES	Conduct hasty/in-stride breach	4-47
CEB-MOBL-4003	YES	Conduct assault breach	4-49
CEB-MOBL-4004	YES	Conduct covert breach	4-51
CEB-MOBL-4005	YES	Conduct dismounted route sweep operations	4-52
CEB-MOBL-4006	YES	Conduct security for clearance operations	4-54
CEB-MOBL-4007	YES	Detect obstacles during clearance	4-55
CTD HODE 400/	150	operations	1 33
CEB-MOBL-4008	YES	Breach obstacles for clearance operations	4-56
CEB-MOBL-4009	YES	Conduct route improvement	4-58

CEB-MOBL-4011	YES	Employ demolitions in support of mobility	4-60
CER-MORT-4011	ILS	operations	4-60
CEB-PINF-4001	YES	Fight as provisional infantry	4-62
CEB-RECN-4001	YES	Conduct zone reconnaissance	4-63
CEB-RECN-4002	YES	Conduct route reconnaissance	4-64
CEB-RECN-4003	YES	Conduct area reconnaissance	4-65
CEB-RECN-4004	YES	Conduct cache sweep	4-66
CEB-RECN-4005	YES	Conduct engineer reconnaissance	4-68
CEB-RECN-4006	YES	Conduct site survey	4-69
CEB-SURV-4001	YES	Harden existing structure	4-70
CEB-SURV-4001	YES	Construct field fortifications	4-70
CEB-SURV-4002 CEB-SURV-4003		Construct Vehicle Control Point (VCP)	4-72
	YES		
CEB-SURV-4004	YES	Construct Entry Access Point (EAP)	4-75
CEB-SURV-4005	YES	Construct earth filled barrier/structure	4-76
CEB-SURV-4006	YES	Employ demolitions in support of	4-77
GDD 11001 4001	VEC	survivability operations	4 70
CEB-UTIL-4001	YES	Provide tactical electrical power	4-78
CEB-VERT-4001	NO	Conduct limited vertical construction	4-79
CEB-VERT-4002	NO	Construct wood frame structure	4-81
CEB-VERT-4003	NO	Construct timber structure	4-82
CEB-VERT-4004	NO	Provide limited repair of existing	4-83
1005		structures	4 0 4
CEB-VERT-4005	NO	Rig expedient lifting devices	4-84
		3000 LEVEL EVENTS	4 05
CEB-CMOB-3001	YES	Construct field expedient obstacles	4-85
CEB-CMOB-3002	YES	Build non-explosive obstacles	4-87
CEB-CMOB-3003	YES	Employ explosive obstacles	4-88
CEB-DEMO-3001	YES	Destroy captured arms and ammunition with	4-89
	_	demolitions	
CEB-DEMO-3002	YES	Destroy Bridge with demolitions	4-91
CEB-DEMO-3003	YES	Destroy tunnel with demolitions	4-92
CEB-DEMO-3004	YES	Destroy building with demolitions	4-94
CEB-HEOP-3001	YES	Provide Limited Material Handling Equipment	4-95
		(MHE) Support	
CEB-HEOP-3002	YES	Provide limited earth moving equipment	4-96
		support	
CEB-MANT-3001	YES	Maintain engineer equipment	4-97
CEB-MANT-3002	YES	Perform operator/crew level maintenance on	4-98
		ABV	
CEB-MANT-3003	YES	Perform operator/crew level maintenance on	4-99
		AVLB	
CEB-MANT-3004	NO	Maintain tactical power distribution system	4-99
CEB-MANT-3005	NO	Maintain Environmental Control Unit(s)(ECU)	4-101
CEB-MANT-3006	NO	Maintain refrigeration system(s)	4-102
CEB-MOBL-3001	YES	Engage targets with MK153 SMAW	4-103
CEB-MOBL-3002	YES	Breach obstacle with the Assault Breacher	4-104
	ļ	Vehicle (ABV)	
CEB-MOBL-3003	YES	Conduct an urban breach	4-106
CEB-MOBL-3004	YES	Create a lane through an obstacle	4-107
CEB-MOBL-3005	YES	Proof a lane through an obstacle	4-109
CEB-MOBL-3006	YES	Mark a lane through an obstacle	4-110
CEB-MOBL-3007	YES	Remotely detect explosive hazards	4-111

CEB-MOBL-3008	YES	Remotely reduce explosive hazards	4-112
CEB-MOBL-3009	YES	Employ a medium machinegun team	4-113
CEB-MOBL-3010	YES	Employ a heavy machinegun team	4-114
CEB-MOBL-3011	NO	Fell standing timber	4-115
CEB-MOBL-3012	YES	Employ the Armored Vehicle Launched Bridge (AVLB)	4-116
CEB-MOBL-3013	NO	Operate small craft	4-118
CEB-MOBL-3014	YES	Conduct route clearance operations	4-119
CEB-MOBL-3015	YES	Conduct area clearance operations	4-120
CEB-RECN-3001	YES	Conduct gap reconnaissance	4-122
CEB-RECN-3002	YES	Conduct ferry reconnaissance	4-123
CEB-RECN-3003	YES	Conduct cache sweep	4-123
CEB-RECN-3004	YES	Conduct tunnel/cave reconnaissance	4-125
CEB-RECN-3005	YES	Survey site for construction	4-126
CEB-RECN-3006	YES	Conduct obstacle reconnaissance	4-127
CEB-RECN-3007	YES	Conduct bridge reconnaissance	4-128
CEB-RECN-3008	YES	Conduct road reconnaissance	4-129
CEB-SURV-3001	YES	Construct trenches	4-130
CEB-SURV-3002	YES	Construct shelter/bunkers	4-131
CEB-SURV-3003	YES	Construct vehicle survivability position	4-132
		position/revetment	
CEB-SURV-3004	YES	Construct crew served weapons position	4-133
CEB-SURV-3005	YES	Construct overhead cover	4-134
CEB-SURV-3006	YES	Construct individual fighting position	4-135
CEB-SURV-3007	YES	Construct triggering screen	4-137
CEB-SURV-3008	YES	Construct vehicle fighting position	4-138
CEB-UTIL-3001	YES	Establish tactical power distribution	4-139
		system	
CEB-UTIL-3002	YES	Provide floodlight support	4-140
CEB-UTIL-3003	YES	Establish power generation site(s)	4-140
CEB-UTIL-3004	NO	Wire a structure for electricity	4-141
CEB-UTIL-3005	NO	Provide Environmental Control Unit (ECU)	4-142
		Support	
CEB-UTIL-3006	NO	Provide refrigeration support	4-143

4003. 7000-LEVEL EVENTS

<u>CEB-ADMN-7001</u>: Command and control engineer forces

SUPPORTED MCT(S):

DOF	OKIED MCI(D).				
MCT	1.1.2	MCT	1.12.1	MCT	1.4.1
MCT	1.4.2	MCT	2.2.2	MCT	4.4.4
МСТ	6 1 4				

MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Command and control engineer forces to enable command and control of the battalion and any engineer reinforcing elements (e.g., support from engineer support battalion). Collection efforts of higher and subordinates units, external agencies, and the battalion's S-2 are integrated to meet all intelligence requirements. The CEB intelligence officer actively participates in the engineer portion of the division intelligence collection

effort. The battalion is capable of self-administration.

CONDITION: Given an order, commander's intent and references.

STANDARD: To exercise authority and direction over assigned forces, advise the commander on the use of engineer forces and coordinate operations with adjacent engineers in the accomplishment of the mission in accordance with MCWP 3-17 Engineer Operations.

EVENT COMPONENTS:

- 1. Establish COC and communications with higher, adjacent, supported and subordinate units.
- 2. Command assigned units.
- 3. Maintain the engineer Common Operational Picture (COP).
- 4. Direct and coordinate current engineer operations and initiate appropriate actions.
- 5. Track Commander's Critical Information Requirements (CCIR).
- 6. Maintain status of available engineer resources.
- 7. Integrate engineer reconnaissance products into intelligence effort.
- 8. Make recommendations to the commander on the employment of engineer forces.

CHAINED EVENTS:

CEB-ADMN-6001	CEB-CMOB-6001	CEB-EOPS-6001
CEB-EOPS-6002	CEB-MOBL-6001	CEB-PINF-6001
CEB-PLAN-6001	CEB-SURV-6001	

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17 Engineering Operations
- 3. MCWP 3-43 Command and Control
- 4. MCWP 5-1 Marine Corps Planning Process (MCPP)

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

EQUIPMENT: C4I assets.

CEB-EOPS-7001: Train engineer forces

SUPPORTED MCT(S):

MCT	1.1.2	MCT 1.12.1	MCT	1.4.1
MCT	1.4.2	MCT 2.2.2	MCT	4.4.4
мст	6 1 4			

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 12 months

DESCRIPTION: Train engineer forces in order to sustain proficiency in mobility, countermobility, survivability, engineer reconnaissance, Amphibious

Operations and tactical electrical power.

<u>CONDITION</u>: Given an engineer unit, approved Mission Essential Task List (METL), commanders training guidance, training plans, training schedules, resources and trainers.

STANDARD: To ensure that all requirements identified in performance steps (individual performance tasks) or event components (collective tasks) are addressed in sequence so all training evolutions achieve desired results.

EVENT COMPONENTS:

- 1. Conduct problem framing.
- 2. Identify collective training standards.
- 3. Conduct training assessment.
- 4. Determine training strategy.
- 5. Develop training guidance.
- 6. Develop a long range training plan.
- 7. Develop a mid-range training plan.
- 8. Develop a short-range training plan.
- 9. Develop weekly training schedules.
- 10. Develop lesson materials.
- 11. Develop training materials.
- 12. Conduct Operational Risk Assessment (ORA).
- 13. Conduct training.
- 14. Evaluate training.
- 15. Evaluate unit training plans.

CHAINED EVENTS:

 CEB-ADMN-6001
 CEB-CMOB-6001
 CEB-MOBL-6001

 CEB-PINF-6001
 CEB-PLAN-6001
 CEB-SURV-6001

REFERENCES:

- 1. MCO 1553.3 Unit Training Management (UTM) Program
- 2. MCRP 3-0A Unit Training Management Guide
- 3. MCRP 3-0B How to Conduct Training
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 5-1 Marine Corps Planning Process (MCPP)

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

CEB-PLAN-7001: Plan engineer operations

SUPPORTED MCT(S):

MCT 1.1.2 MCT 1.12.1 MCT 1.4.1 MCT 1.4.2 MCT 2.2.2 MCT 4.4.4

MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Plan engineer operations to identify all potential engineer requirements (e.g., mobility, countermobility, survivability, limited vertical and horizontal construction, topographic support and civil-military operations support) during the planning process. The CEB conducts its internal planning with focus on mobility, countermobility, survivability and utilities in accordance with the Marine Corps Planning Process (MCPP).

<u>CONDITION</u>: Given higher commanders initial guidance, battle space area evaluation, and a warning or operations order.

STANDARD: To identify the best use of engineer personnel and equipment in accordance with problem framing, commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Perform problem framing.
- 2. Develop courses of action.
- 3. War game courses of action.
- 4. Compare courses of action.
- 5. Brief commanders.
- 6. Develop orders.
- 7. Transition to produce operations plan or order.
- 8. Develop branches and sequels, if applicable.

CHAINED EVENTS: CEB-PLAN-6001

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.4 Engineer Reconnaissance
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-17.8 Combined Arms Mobility Operations
- 7. MCWP 5-1 Marine Corps Planning Process (MCPP)

4004. 6000-LEVEL EVENTS

CEB-ADMN-6001: Command and control engineer forces

SUPPORTED MCT(S):

MCT 1.1.2	MCT 1.12.1	MCT 1.4.1
MCT 1.4.2	MCT 2.2.2	MCT 4.4.4
MCT 6.1.4		

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Command and control engineer forces to exercise authority and direction over assigned forces, advise the Battalion Commander on the use of engineer forces, and coordinate operations with adjacent engineers.

CONDITION: Given an order and commander's intent.

STANDARD: To exercise authority and direction over assigned forces, advise the commander on the use of engineer forces and coordinate operations with adjacent engineers in accordance with the concept of operations.

EVENT COMPONENTS:

- 1. Establish COC.
- 2. Establish communications with higher, adjacent, supported and subordinate units.
- 3. Command assigned units.
- 4. Maintain the engineer Common Operational Picture (COP).
- 5. Direct/coordinate current engineer operations.
- 6. Initiate appropriate actions.
- 7. Track CCIRs.
- 8. Maintain status of available engineer resources.
- 9. Integrate engineer reconnaissance products into intelligence efforts.
- 10. Make recommendations to the commander.

CHAINED EVENTS:

CEB-CMOB-5001	CEB-DEMO-5001	CEB-HEOP-5001
CEB-HORZ-5001	CEB-HORZ-5002	CEB-MANT-5001
CEB-MOBL-5001	CEB-MOBL-5002	CEB-MOBL-5003
CEB-MOBL-5004	CEB-PINF-5001	CEB-RECN-5001
CEB-RECN-5002	CEB-SURV-5001	CEB-UTIL-5001
CEB-VERT-5001		

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17 Engineering Operations
- 3. MCWP 3-43 Command and Control
- 4. MCWP 5-1 Marine Corps Planning Process (MCPP)

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

MATERIAL: C4ISR assets.

CEB-CMOB-6001: Conduct countermobility operations

SUPPORTED MCT(S): MCT 1.4.2

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 6 months

<u>DESCRIPTION</u>: Conduct countermobility operations to augment natural terrain with obstacle systems that disrupt the enemy's ability to maneuver its forces. With its movement disrupted, turned, fixed or blocked, the enemy is vulnerable.

<u>CONDITION</u>: Given a mission, commander's intent, available resources, location of adjacent and friendly forces, estimated location and most recent activities of enemy, weather conditions, defined area of operations, routes,

rules of engagement (ROE), supporting arms plan and references.

STANDARD: To turn, block, fix, or disrupt enemy forces in accordance with the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Conduct countermobility planning.
- 2. Integrate countermobility plan into concept of operations.
- 3. Participate in supported unit planning.
- 4. Task organize.
- 5. Complete engineering portion to orders.
- 6. Issue orders.
- 7. Construct obstacles and barriers.
- 8. Maintain obstacles and barriers.
- 9. Submit reports as required.

PREREQUISITE EVENTS:

1302-ADMN-1002	1302-CMOB-1001	1302-CMOB-1002
1302-CMOB-1003	1371-ADMN-2002	1371-CMOB-1001
1371-CMOB-1002	1371-CMOB-1003	1371-CMOB-2001
1371-CMOB-2002	1371-CMOB-2003	1371-CMOB-2004

CHAINED EVENTS:

CEB-CMOB-5001 CEB-HEOP-5001

REFERENCES:

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. MCWP 3-13.2 MINE WARFARE
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 5-1 Marine Corps Planning Process (MCPP)

<u>CEB-EOPS-6001</u>: Train engineer forces

SUPPORTED MCT(S):

MCT 1	.1.2	MCT	1.12.1	MCT	1.4.1
MCT 1	.4.2	MCT	2.2.2	MCT	4.4.4
MCT 6	.1.4				

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Train engineer forces in order to sustain proficiency in mobility, countermobility, survivability, tactical electrical power, engineering reconnaissance operations and amphibious operations.

CONDITION: Given an engineer unit, approved Mission Essential Task List (METL), commanders training guidance, training plans, training schedules, resources and trainers.

STANDARD: To ensure that all requirements identified in performance steps (individual performance tasks) or event components (collective tasks) are addressed in sequence so all training evolutions achieve desired results.

EVENT COMPONENTS:

- 1. Conduct problem framing.
- 2. Identify collective training standards.
- 3. Conduct training assessment.
- 4. Determine training strategy.
- 5. Develop training guidance.
- 6. Develop a long range training plan.
- 7. Develop a mid-range training plan.
- 8. Develop a short-range training plan.
- 9. Develop weekly training schedules.
- 10. Develop lesson materials.
- 11. Develop training materials.
- 12. Conduct Operational Risk Assessment (ORA).
- 13. Conduct training.
- 14. Evaluate training.
- 15. Evaluate unit training plans.

PREREQUISITE EVENTS:

1120-ADMN-2001	1120-ADMN-2023	1169-ADMN-2001
1169-ADMN-2023	1302-ADMN-1001	1310-ADMN-2009
1310-ADMN-2010	1349-ADMN-2009	1349-ADMN-2010
1371-ADMN-2001		

CHAINED EVENTS:

CEB-CMOB-5001	CEB-DEMO-5001	CEB-HEOP-5001
CEB-HORZ-5001	CEB-HORZ-5002	CEB-MANT-5001
CEB-MOBL-5001	CEB-MOBL-5002	CEB-MOBL-5003
CEB-MOBL-5004	CEB-PINF-5001	CEB-RECN-5001
CEB-RECN-5002	CEB-SURV-5001	CEB-UTIL-5001
CEB-VERT-5001		

REFERENCES:

- 1. NAVMC 3500.12_ Marine Corps Engineer and Utilities Training and Readiness Manual
- 2. MCO 1553.3_ Unit Training Management (UTM) Program
- 3. MCRP 3-0A Unit Training Management Guide
- 4. MCRP 3-0B How to Conduct Training
- 5. MCWP 3-17 Engineering Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

CEB-EOPS-6002: Conduct engineer operations

SUPPORTED MCT(S):

# 01 1 01 (E / C		
MCT 1.1.2	MCT 1.12.1	MCT 1.4.1
MCT 1.4.2	MCT 2.2.2	MCT 4.4.4
MCT 6.1.4		

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Conduct limited general engineering operations to include but are not limited to expeditionary facilities and helicopter landing zones.

<u>CONDITION</u>: Given a mission, commander's intent, available resources, location of adjacent and friendly forces, estimated location and most recent activities of enemy, weather conditions, defined area of operations, routes, rules of engagement (ROE), supporting arms plan and security element.

STANDARD: To provide general engineering in accordance with commander's intent, concept of operations and supported unit requirements.

EVENT COMPONENTS:

- 1. Provide engineer reconnaissance.
- 2. Provide survey capability.
- 3. Construct and maintain essential base camp requirements.
- 4. Provide limited tactical mobile electric power.
- 5. Provide limited vertical and horizontal construction.
- 6. Construct expedient helicopter landing zones (HLZ).
- 7. Provide limited material handling equipment support.

PREREQUISITE EVENTS:

1120-XENG-2501	1120-XENG-2502
1120-XENG-2522	1120-XENG-2541
1302-EOPS-1001	1302-EOPS-1002
1302-EOPS-1005	1302-EOPS-1007
1302-HORZ-1001	1302-HORZ-1002
1302-MOBL-1001	1302-MOBL-1016
1302-PLAN-1002	1302-RECN-1001
1310-HORZ-2001	1310-HORZ-2002
1310-MANT-2002	
	1120-XENG-2522 1302-EOPS-1001 1302-EOPS-1005 1302-HORZ-1001 1302-MOBL-1001 1302-PLAN-1002 1310-HORZ-2001

CHAINED EVENTS:

CEB-CMOB-5001	CEB-DEMO-5001	CEB-HEOP-5001
CEB-HORZ-5001	CEB-HORZ-5002	CEB-MANT-5001
CEB-MOBL-5001	CEB-MOBL-5002	CEB-MOBL-5003
CEB-MOBL-5004	CEB-PINF-5001	CEB-RECN-5001
CEB-RECN-5002	CEB-SURV-5001	CEB-UTIL-5001
CEB-VERT-5001		

REFERENCES:

- 1. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 2. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17.7D Concrete and Masonry
- 5. MCRP 3-17.7F Project Management
- 6. MCRP 3-17.7I Earthmoving Operations
- 7. MCRP 3-17.7K Theater of Operations Electrical Systems
- 8. MCRP 3-17.7M Construction Estimating
- 9. MCRP 3-17.7N Base Camps
- 10. MCRP 3-17A Engineering Field Data
- 11. MCRP 3-17B Engineer Forms and Reports
- 12. MCWP 3-17 Engineering Operations

13. MCWP 3-17.4 Engineer Reconnaissance

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces Facility Code 17931 Medium/Heavy Equipment Training Area

EQUIPMENT: Engineer Earthmoving equipment, Engineer Material Handling equipment, Utilities equipment, Refrigeration equipment, Combat Engineer tools & kits

CEB-MOBL-6001: Conduct mobility operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Conduct mobility operations to enable the force commander to maneuver units into advantageous positions. It includes but is not limited to breaching, mounted route clearance, combat roads and trails, and assault bridging.

<u>CONDITION</u>: Given a mission, commander's intent, available resources, location of adjacent and friendly forces, estimated location and most recent activities of enemy, weather conditions, defined area of operations, routes, rules of engagement (ROE), supporting arms plan and references.

STANDARD: To provide mobility for maneuver forces in accordance with the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Conduct mobility planning.
- 2. Conduct engineer reconnaissance.
- 3. Integrate mobility plan into the concept of operations.
- 4. Participate in supported unit planning.
- 5. Task organize.
- 6. Complete the engineering portion of the orders.
- 7. Issue orders.
- 8. Clear mobility obstructions.
- 9. Construct and maintain mobility corridors for maneuver forces.
- 10. Submit reports as required.

PREREQUISITE EVENTS:

1302-MOBL-1001	1302-MOBL-1002	1302-MOBL-1003
1302-MOBL-1005	1302-MOBL-1007	1302-MOBL-1015
1302-MOBL-1016	1302-PLAN-1001	1302-RECN-1001

CHAINED EVENTS:

CEB-HEOP-5001	CEB-MOBL-5001	CEB-MOBL-5002
CEB-MOBL-5003	CEB-MOBL-5004	CEB-RECN-5001

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7L Explosives and Demolitions
- 3. MCRP 3-17A Engineering Field Data
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance
- 7. MCWP 3-17.8 Combined Arms Mobility Operations
- 8. TM 11275-15/3_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 9. Unit SOP Unit's Standing Operating Procedures

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

CEB-PINF-6001: Provide provisional infantry

SUPPORTED MCT(S):

MCT 1.1.2 MCT 1.4.1

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 6 months

DESCRIPTION: Provide provisional infantry participate in offensive operations such as attacks, raids, movement to contact, etc. Defensive operations that include withdrawal, patrolling, check point ops, convoy ops, and employment of organic weapons. Additional responsibilities may include operations other than war (civil disturbance, TRAP, cordon and search) and MOUT (attack, defend, patrol, clear a building, vehicle check point).

CONDITION: Given a requirement, commander's intent and references.

STANDARD: To ensure a deployable detachment is capable of providing task organized forces to a supported unit in accordance with the concept of operations.

EVENT COMPONENTS:

- 1. Conduct planning.
- 2. Task organize.
- 3. Issue orders.
- 4. Conduct inspections, rehearsals, and preparations.
- 5. Employ appropriate formations and tactics.
- 6. Conduct final preparations.
- 7. Utilize, coordinate and deconflict fires.
- 8. Employ supporting arms.
- 9. Establish redundant communications.
- 10. Treat and evacuate casualties.
- 11. Process detainees.
- 12. Send and receive required reports.

PREREQUISITE EVENTS:

1302-PLAN-1001 1371-PLAN-2001

CHAINED EVENTS: CEB-PINF-5001

REFERENCES:

- 1. FM 21-75 Combat Skills of the Soldier
- 2. MCDP 1 Warfighting
- 3. MCWP 3-1 Ground Combat Operations
- 4. MCWP 5-1 Marine Corps Planning Process (MCPP)

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

Facility Code 17581 Machine Gun Field Fire Range

Facility Code 17730 Fire And Movement Range

CEB-PLAN-6001: Plan engineer operations

SUPPORTED MCT(S):

MCT 1.1.2 MCT 1.12.1 MCT 1.4.1 MCT 1.4.2 MCT 2.2.2 MCT 4.4.4 MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Plan engineer operations to optimize the use of engineer personnel and equipment in accordance with problem framing, commander's intent and concept of operations.

CONDITION: Given higher commander's initial guidance, battle-space area evaluation, and a warning order or operations order.

STANDARD: To identify the best use of engineer personnel and equipment in accordance with problem framing, commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Perform problem framing.
- 2. Develop courses of action.
- 3. War game courses of action.
- 4. Compare courses of action.
- 5. Conduct decision brief.
- 6. Develop orders.
- 7. Transition to produce operations plan or order.
- 8. Develop branches and sequels, if applicable.

PREREQUISITE EVENTS:

1302-PLAN-1001 1371-PLAN-2001

RELATED EVENTS:		
1302-ADMN-1002	1302-CMOB-1001	1302-CMOB-1002
1302-CMOB-1003	1302-DEMO-1001	1302-DEMO-1004
1302-EOPS-1005	1302-HORZ-1001	1302-HORZ-1002
1302-MOBL-1001	1302-MOBL-1002	1302-MOBL-1003
1302-MOBL-1005	1302-MOBL-1007	1302-MOBL-1015
1302-MOBL-1016	1302-SURV-1002	1302-SURV-1003
1371-ADMN-2002	1371-CMOB-2002	1371-MOBL-2008
1371-MOBL-2017	1371-PLAN-2002	1371-VERT-2001

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.4 Engineer Reconnaissance
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-17.8 Combined Arms Mobility Operations
- 7. MCWP 5-1 Marine Corps Planning Process (MCPP)

<u>CEB-SURV-6001</u>: Conduct survivability operations

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Conduct survivability operations to provide survivability planning and positions for supported units. (Such as construction of field fortifications, hardening of command, communication and combat train locations, weapon system firing positions, and infantry fighting combat positions).

<u>CONDITION</u>: Given a mission, commander's intent, available resources, location of adjacent and friendly forces, estimated location and most recent activities of enemy, weather conditions, defined area of operations, routes, rules of engagement (ROE), supporting arms plan and references.

STANDARD: To provide survivability planning and positions for supported units in accordance with the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Perform vulnerability assessment.
- 2. Integrate survivability plan into the concept of operations.
- 3. Conduct survivability planning.
- 4. Task organize.
- 5. Complete the engineering portion of the orders.
- 6. Issue orders.
- 7. Construct survivability positions.
- 8. Provide SME input to AF/FP plan as required.
- 9. Maintain survivability positions as required.
- 10. Maintain oversight of survivability construction efforts.
- 11. Receive and submit reports as required.

PREREQUISITE EVENTS:

1302-PLAN-1001 1371-PLAN-2001

CHAINED EVENTS: CEB-SURV-5001

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCRP 3-17A Engineering Field Data
- 3. MCRP 3-17B Engineer Forms and Reports
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 5-1 Marine Corps Planning Process (MCPP)

4005. 5000-LEVEL EVENTS

CEB-CMOB-5001: Create an obstacle group

SUPPORTED MCT(S): MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Create obstacle groups of two or more obstacles grouped to provide a specific obstacle effect turn, block, fix, or disrupt the enemy.

<u>CONDITION</u>: Given a mission, commander's intent, location of adjacent friendly forces, estimated locations and most recent activities of enemy, weather conditions, defined area of operations, route, rules of engagement (ROE), supporting arms, an equipment density list and available personnel.

STANDARD: To turn, block, fix, or disrupt the enemy in accordance with the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Develop/review obstacle plan.
- 2. Analyze engagement areas, battle positions, and weapons location.
- 3. Determine possible obstacle locations and types.
- 4. Identify the commander's obstacle priorities.
- 5. Determine resources.
- 6. Determine actual work sequence.
- 7. Determine task organization required.
- 8. Determine coordination required.
- 9. Coordinate with supported unit for specific obstacle placement and observation.
- 10. Coordinate observation and reporting for decision/triggering point(s).
- 11. Reserve situational obstacles, as required.
- 12. Emplace explosive obstacle(s).
- 13. Create non-explosive obstacle(s).
- 14. Close lanes, as required.
- 15. Submit required reports.

CHAINED EVENTS:

CEB-CMOB-4001 CEB-CMOB-4002 CEB-HEOP-4001

RELATED EVENTS:

1302-CMOB-1001	1302-CMOB-1002	1302-CMOB-1003
1371-CMOB-1001	1371-CMOB-1002	1371-CMOB-1003
1371-CMOB-2001	1371-CMOB-2002	1371-CMOB-2003

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. JP 3-15 Barriers, Obstacles, and Mine Warfare for Joint Operations
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance
- 7. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

CEB-DEMO-5001: Conduct demolition operations

SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct demolition operations to produce the desired effect. These tasks may include placing explosives near heavy weapons, enemy munitions, destroying cave systems, facilities, equipment, and improving mobility in urban terrain and designated or reserve targets.

CONDITION: Given a tactical situation, an order, task organized equipment and personnel, specifications, and appropriate references.

STANDARD: To achieve desired effects in accordance with commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Receive demolition concept of operations.
- 2. Conduct engineer reconnaissance.
- 3. Destroy captured arms and ammunition as required.
- 4. Employ demolitions in support of mobility operations, as required.
- 5. Employ demolitions in support of survivability position construction as required.
- 6. Employ demolitions in support of counter-mobility operations as required.
- 7. Submit required reports.

CHAINED EVENTS:

CEB-DEMO-3001	CEB-DEMO-3002	CEB-DEMO-3003
CEB-DEMO-3004	CEB-CMOB-4003	CEB-MOBL-4011
CEB-RECN-4004	CEB-RECN-4005	CEB-SURV-4006

RELATED EVENTS:

1302-DEMO-1001	1302-DEMO-1002	1302-DEMO-1003
1302-DEMO-1004	1371-DEMO-2001	1371-DEMO-2002

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. JP 3-15 Barriers, Obstacles, and Mine Warfare for Joint Operations
- 4. MCRP 3-17.7D Concrete and Masonry
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.2 MAGTF Explosive Ordnance Disposal
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.6 Survivability
- 11. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer demolitions kit, pioneer kit, PPE.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Type/quantities of ammunition, explosives and pyrotechnics are documented in concert with the 4000 level events chained to this event.

<u>CEB-HEOP-5001</u>: Provide engineer equipment support

SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2 MCT 6.1.4

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 3 months

<u>DESCRIPTION</u>: Provide engineer equipment support to support the mission utilizing the required type(s) of engineer equipment and personnel.

CONDITION: Given a mission, a support plan, equipment availability, commander's intent, personnel and equipment, an area of operations or support, and references.

STANDARD: To provide required engineer support in accordance with unit SOPs, concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Review equipment support plan.
- 2. Analyze support requirements and location(s).
- 3. Determine resources.
- 4. Determine schedule of work.
- 5. Determine task organization.
- 6. Coordinate with supported unit (location, requirements, security, ground guides, etc.).

- 7. Coordinate logistics.
- 8. Manage engineer equipment operations.
- 9. Conduct earthmoving operations as required.
- 10. Conduct material handling operations as required.
- 11. Conduct horizontal construction as required.
- 12. Conduct maintenance as required.
- 13. Recover engineer equipment as required.
- 14. Submit required reports.

CHAINED EVENTS:

CITITIOD DIVITIO.		
CEB-HEOP-3001	CEB-HEOP-3002	CEB-HEOP-4001
CEB-MANT-4001		
RELATED EVENTS:		
1310-ADMN-2001	1310-ADMN-2002	1310-ADMN-2003
1310-ADMN-2004	1310-ADMN-2005	1310-ADMN-2006
1310-ADMN-2008	1310-ADMN-2009	1310-ADMN-2010
1310-HEOP-2001	1310-HORZ-2001	1310-HORZ-2002
1310-HORZ-2003	1310-MANT-2001	1310-MANT-2002
1341-ADMN-2001	1341-ADMN-2002	1341-ADMN-2003
1341-ADMN-2004	1341-ADMN-2005	1341-ADMN-2006
1341-ADMN-2007	1341-ADMN-2008	1345-HEOP-1003
1345-HEOP-1004	1345-HEOP-1006	1345-HEOP-1007
1345-HEOP-2007	1345-HORZ-2001	1345-MANT-1001
1345-MANT-2001	1345-MANT-2003	1345-MANT-2004
1349-ADMN-2001	1349-ADMN-2002	1349-ADMN-2003
1349-ADMN-2004	1349-ADMN-2005	1349-ADMN-2006
1349-ADMN-2008	1349-ADMN-2009	1349-ADMN-2010
1349-HEOP-2001	1349-HORZ-2001	1349-HORZ-2002
1349-HORZ-2003	1349-MANT-2001	1349-MANT-2002

REFERENCES:

- 1. JP 3-34 Joint Engineer Operations
- 2. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 3. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 4. MCRP 3-17.7F Project Management
- 5. MCRP 3-17.7I Earthmoving Operations
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 3-17 Engineering Operations

SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer equipment, Motor Transport equipment, Utilities equipment.

<u>UNITS/PERSONNEL</u>: Engineer equipment maintainers, Utilities equipment maintainers.

CEB-HORZ-5001: Conduct horizontal construction

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Conduct horizontal construction in order to shape the terrain to meet the operational requirements of the GCE and includes expedient road construction and/or maintenance; expeditionary HLZs; site preparation for bed down facilities; and ordnance storage facilities.

CONDITION: Given a mission, commander's intent, tactical situation, task organized equipment and personnel, design specifications, construction materials and references.

STANDARD: To build the assigned project to meet or exceed the requirements listed in the design specifications and the commander's intent.

EVENT COMPONENTS:

- 1. Plan horizontal construction.
- 2. Conduct engineer reconnaissance.
- 3. Conduct survey, as required.
- 4. Coordinate horizontal construction.
- 5. Conduct site preparation.
- 6. Conduct soil stabilization/dust abatement, as required.
- 7. Construct non-explosive obstacles, as required.
- 8. Employ heavy equipment assets, as required.
- 9. Submit required reports.

PREREQUISITE	ETTENTTC.

CEB-MOBL-4005	CEB-MOBL-4006
CEB-CMOB-4002	CEB-HEOP-4001
CEB-MOBL-4011	CEB-RECN-4005
1302-EOPS-1009	1302-HORZ-1001
1302-HORZ-1003	1302-MOBL-1001
1302-MOBL-1016	1302-PLAN-1001
1371-EOPS-2007	1371-EOPS-2010
1371-EOPS-2012	1371-HORZ-2001
1371-MOBL-2001	1371-PLAN-2001
	CEB-CMOB-4002 CEB-MOBL-4011 1302-EOPS-1009 1302-HORZ-1003 1302-MOBL-1016 1371-EOPS-2007 1371-EOPS-2012

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. FM 5-101-5-1 Operational Terrain and Symbols
- 3. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 4. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 5. MCRP 3-17.7D Concrete and Masonry
- 6. MCRP 3-17.7F Project Management
- 7. MCRP 3-17.7I Earthmoving Operations

- 8. MCRP 3-17A Engineering Field Data
- 9. MCWP 3-17 Engineering Operations
- 10. MCWP 3-17.4 Engineer Reconnaissance
- 11. MCWP 3-17.6 Survivability
- 12. MCWP 3-17.7 General Engineering
- 13. MCWP 3-17.8 Combined Arms Mobility Operations
- 14. MCWP 3-41.1 Rear Area Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17420 Maneuver/Training Area, Heavy Forces Facility Code 17931 Medium/Heavy Equipment Training Area

EQUIPMENT: Engineer earthmoving equipment, Engineer Material Handling Equipment, Utilities equipment.

CEB-HORZ-5002: Prepare site for construction

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Prepare site for construction to reduce construction time and meet design specifications. This includes all types of limited vertical and horizontal construction.

<u>CONDITION</u>: Given a mission, a support plan, a site for construction or engineer operations, commander's intent, task organized personnel, equipment and references.

STANDARD: To reduce construction time and meet design specifications in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Review construction site plan.
- 2. Analyze support requirements and location(s).
- 3. Conduct final coordination with supported unit (location, requirements, security, ground guides, etc.).
- 4. Conduct final coordination with supporting units (logistics, etc).
- 5. Move to site.
- 6. Conduct area clearance.
- 7. Conduct earthmoving operations as required.
- 8. Conduct demolition operations as required.
- 9. Conduct material handling operations as required.
- 10. Employ utilities support as required.
- 11. Submit required reports.

PREREQUISITE EVENTS:

CEB-RECN-4005 CEB-RECN-4006

CHAINED EVENTS:

CEB-HEOP-3002 CEB-MOBL-3015 CEB-HEOP-4001

CEB-MOBL-4005 CEB-MOBL-4009	CEB-MOBL-4016 CEB-MOBL-4011	CEB-MOBL-4007 CEB-UTIL-4001
RELATED EVENTS:		
1302-DEMO-1001	1302-DEMO-1002	1302-EOPS-1007
1302-EOPS-1009	1302-HORZ-1001	1302-HORZ-1002
1302-HORZ-1003	1302-MOBL-1001	1302-MOBL-1002
1302-MOBL-1003	1302-MOBL-1016	1302-PLAN-1001
1302-RECN-1001	1371-DEMO-1001	1371-DEMO-2002
1371-EOPS-2010	1371-EOPS-2011	1371-EOPS-2012
1371-HORZ-2001	1371-HORZ-2002	1371-HORZ-2004
1371-PLAN-2001	1371-RECN-1001	1371-RECN-2001

- 1. FM 5-33 Terrain Analysis
- 2. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 3. MCRP 3-17.7F Project Management
- 4. MCRP 3-17.7I Earthmoving Operations
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.4 Engineer Reconnaissance

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17420 Maneuver/Training Area, Heavy Forces Facility Code 17931 Medium/Heavy Equipment Training Area

EQUIPMENT: Engineer earthmoving equipment, Material Handling Equipment, Motor Transportation equipment, Utilities equipment.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Type/quantities of ammunition, explosives and pyrotechnics are documented in concert with the 3000 level events chained to this event.

CEB-MANT-5001: Maintain engineer equipment

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 3 months

<u>DESCRIPTION</u>: Maintain engineer equipment by conducting preventive and corrective maintenance on engineer equipment using unit assigned maintenance levels.

CONDITION: With equipment, tools, repair parts, supplies, personnel and references.

STANDARD: To sustain equipment in an operational status at or above unit's readiness requirements.

EVENT COMPONENTS:

- 1. Manage maintenance programs.
- 2. Monitor equipment readiness.
- 3. Conduct reconciliation.
- 4. Assign tasks.
- 5. Maintain utilities equipment as required.
- 6. Maintain MHE as required.
- 7. Maintain earthmoving equipment as required.
- 8. Maintain other organic tactical engineer equipment as required.
- 9. Submit required reports.

CHAINED EVENTS: CEB-MANT-4001

RELATED EVENTS:

1120-ADMN-2006	1120-ADMN-2007	1120-ADMN-2012
1120-ADMN-2021	1120-ADMN-2022	1120-ADMN-2041
1120-ADMN-2051	1120-ADMN-2052	1120-ADMN-2061
1120-ADMN-2065	1120-ADMN-2071	1120-ADMN-2072
1120-ADMN-2073	1120-ADMN-2074	1120-ADMN-2075
1310-ADMN-2004	1310-HEOP-2001	1310-MANT-2001
1310-MANT-2002	1316-ADMN-1001	1316-ADMN-1002
1316-ADMN-1003	1316-MANT-1002	1316-MANT-1004
1316-XENG-1001	1316-XENG-1002	1316-XENG-1004
1316-XENG-1005	1316-XENG-1006	

REFERENCES:

- 1. Applicable Technical Manuals Publications
- 2. SOP Unit/Local Standard Operating Procedures
- 3. DoDI 6055.1 DoD Safety and Occupational Health (SOH) Program
- 4. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 5. MCO 4790.18_ Corrosion Prevention and Control (CPAC) Program
- 6. MCO 5100.29_ Marine Corps Safety Program
- 7. MCO P4733.1_ Marine Corps TMDE Calibration and Maintenance Program
- 8. MCWP 4-11 Tactical-Level Logistics
- 9. MCWP 4-11.4 Maintenance Operations
- 10. TM 11275-15/3 Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 11. TM 4700-15/1 Ground Equipment Record Procedures

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17931 Medium/Heavy Equipment Training
Area

MATERIAL: Tools sets chests and kits

<u>UNITS/PERSONNEL</u>: Engineer equipment mechanics, utilities maintenance personnel, welders, equipment operators.

OTHER SUPPORT REQUIREMENTS: POL and HAZ-MAT

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: A unit may perform any field maintenance tasks for which it is manned, trained and equipped IAW current Maintenance Management policy, Automated Information Systems (AIS) and assigned user roles and responsibilities.

CEB-MOBL-5001: Conduct obstacle breaching operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 6 months

DESCRIPTION: Conduct obstacle breaching operations to breach lanes through enemy obstacles, to advance an attacking force to the far side of an obstacle that is covered by fire.

CONDITION: Given a mission, commander's intent, a map, designated area, tasked organized personnel, equipment, and references.

STANDARD: To breach lanes through enemy obstacles to support the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Gather obstacle intelligence as required.
- 2. Analyze obstacle intelligence.
- 3. Determine breach requirement.
- 4. Task organize obstacle clearing detachment(s) (OCD).
- 5. Coordinate suppression of enemy over-watching obstacle.
- 6. Coordinate obscuration of enemy over-watching obstacle.
- 7. Coordinate security for breach lanes.
- 8. Coordinate breach with assault force, support force, and support breach team(s).
- 9. Verify suppression/obscuration effects.
- 10. Breach lanes through obstacle(s).
- 11. Turnover lane(s) to designated forces.
- 12. Reconstitute the breach force.
- 13. Submit required reports.

CHAINED EVENTS:

CEB-HEOP-3002	CEB-HEOP-4001	CEB-MOBL-4001
CEB-MOBL-4002	CEB-MOBL-4003	CEB-MOBL-4004
CEB-MOBL-4008	CEB-MOBL-4011	

RELATED EVENTS:

1302-MOBL-1005	1371-MOBL-1003	1371-MOBL-2012
1371-MOBL-2017		

REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports

- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.3 MAGTF Breaching Operations
- 8. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces Facility Code 17931 Medium/Heavy Equipment Training Area

EQUIPMENT: Combat engineer breaching equipment, Engineer earthmoving equipment, Engineer Material Handling Equipment.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Type/quantities of ammunition, explosives and pyrotechnics are documented with the 4000-Level Events Chained to this event.

CEB-MOBL-5002: Conduct route clearance operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 6 months

<u>DESCRIPTION</u>: Conduct route clearance operations to detect and if found, identify, mark, and reduce explosive hazards and other obstacles along a defined route. Obstacles may include mines, unexploded ordnance, improvised explosive devices, non-explosive obstacles, and damage to the route that severely limits mobility. The route will only be cleared while it remains under the control/observation of friendly forces.

<u>CONDITION</u>: Provided a mission, designated route with known/potential/suspected obstacle(s), personnel, engineer tools and equipment, intelligence support, Class V, Class IV and reference.

<u>STANDARD</u>: To ensure friendly force mobility on the cleared route in accordance with the commander's intent, while the route remains in friendly forces control.

EVENT COMPONENTS:

- 1. Analyze route intelligence.
- 2. Task organize.
- 3. Coordinate with supported unit.
- 4. Coordinate with supporting units.
- 5. Detect obstacles on route.
- 6. Identify obstacle(s).
- 7. Mark obstacle(s) as required.
- 8. Reduce obstacle(s) as required.
- 9. Verify obstacle reduction.
- 10. Identify bypasses as required.

11. Submit required reports.

PREREQUISITE EVENTS:	CEB-RECN-4002	
CHAINED EVENTS:		
CEB-MOBL-3014	CEB-MOBL-4005	CEB-MOBL-4006
CEB-MOBL-4007	CEB-MOBL-4009	
RELATED EVENTS:		
1302-MOBL-1002	1302-MOBL-1003	1302-MOBL-1004
1302-MOBL-1008	1302-MOBL-1009	1302-MOBL-1010
1371-MOBL-2018	1371-MOBL-2021	1371-MOBL-2022
1371-MOBL-2023	1371-MOBL-2024	1371-MOBL-2025
1371-MOBL-2026	1371-MOBL-2027	1371-MOBL-2035

REFERENCES:

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. GTA 5-7-13 Bridge Classification Booklet
- 3. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 4. MCRP 3-17.2D Explosive Hazard Operations
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

Facility Code 17830 Light Demolition Range

Facility Code 17931 Medium/Heavy Equipment Training Area

EQUIPMENT: Combat engineer demolition equipment, Route clearance equipment.

<u>UNITS/PERSONNEL</u>: Corpsman and Range Safety Officer.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Type/quantities of ammunition, explosives and pyrotechnics are documented with the 4000 Level Events Chained to this event.

CEB-MOBL-5003: Construct expedient Helicopter Landing Zone (HLZ)

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Conduct construction of expedient HLZ, includes but is not

limited to clearing and grubbing geographical locations for takeoff and landing of rotary wing in support of troop transport, resupply, MEDEVAC operations, etc.

CONDITION: Given a mission, commander's intent, available resources, and references.

STANDARD: To create a landing site that will support rotary wing aircraft for the loading and unloading of personnel, resupply, and equipment in accordance with commander's intent, concept of operations and supported unit requirements.

EVENT COMPONENTS:

- 1. Task organize.
- 2. Conduct engineer reconnaissance.
- 3. Conduct survey.
- 4. Coordinate resource requirements.
- 5. Issue order.
- 6. Clear landing site.
- 7. Maintain/improve landing site as required.
- 8. Submit required reports.

CHAINED EVENTS:

CEB-HEOP-3002 CEB-HEOP-4001 CEB-MOBL-3011 CEB-MOBL-4011 CEB-RECN-4005 CEB-RECN-4006

REFERENCES:

- 1. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 2. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 3. MCRP 3-17.7F Project Management
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17420 Maneuver/Training Area, Heavy Forces Facility Code 17918 Road/Airfield Construction Training Site

CEB-MOBL-5004: Construct combat roads

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Construct and maintain limited combat roads and trails in support of division operations (construction and maintenance are requirements are limited to those that can be performed with organic equipment and

personnel, typically limited to class d roads.) The construction and maintenance of trails and roads are normally considered horizontal construction tasks and are therefore performed by an engineering support unit. However areas at or near the Forward Line Of Troops (FLOT) or time constrictions may require the forward combat engineer units to perform these functions in an expedient manner or for short durations of time until support engineers are available. Engineers should always strive to take full advantage of existing infrastructure and natural terrain features when constructing combat trails and roads.

CONDITION: Provided a mission order, commander's intent, a tactical situation, task organized engineer equipment and personnel.

STANDARD: That meets the minimum traffic support requirements in accordance with the commander's intent and the mobility plan.

EVENT COMPONENTS:

- 1. Review mission.
- 2. Conduct engineer reconnaissance.
- 3. Conduct survey.
- 4. Task organize.
- 5. Coordinate with supporting units.
- 6. Issue order.
- 7. Conduct site preparations as required.
- 8. Clear the road.
- 9. Construct expedient drainage structures as required.
- 10. Conduct expedient soil stabilization as required.
- 11. Submit required reports.

CHAINED EVENTS:

CEB-HEOP-3002	CEB-HEOP-4001	CEB-MOBL-3011
CEB-MOBL-4009	CEB-MOBL-4011	CEB-RECN-4005
CEB-RECN-4006		

RELATED EVENTS:		
1302-HORZ-1002	1302-HORZ-1003	1302-MOBL-1001
1302-RECN-1001	1310-HEOP-2001	1310-HORZ-2001
1310-HORZ-2002	1310-HORZ-2003	1345-HEOP-1003
1345-HEOP-1006	1345-HEOP-1007	1345-HORZ-2001
1345-MANT-2001	1349-HEOP-2001	1349-HORZ-2001
1349-HORZ-2002	1349-HORZ-2003	1349-MANT-2002
1371-EOPS-2002	1371-EOPS-2003	1371-EOPS-2007
1371-EOPS-2011	1371-HORZ-2001	1371-HORZ-2002
1371-HORZ-2003	1371-RECN-1001	1371-RECN-2001

REFERENCES:

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Road Design
- 3. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Airfield and Heliport Design
- 4. MCRP 3-17.7F Project Management
- 5. MCRP 3-17.7I Earthmoving Operations
- 6. MCRP 3-17.7L Explosives and Demolitions

- 7. MCRP 3-17A Engineering Field Data
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.8 Combined Arms Mobility Operations
- 11. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces Facility Code 17918 Road/Airfield Construction Training Site

EQUIPMENT: Engineer Material Handling Equipment, Combat engineer equipment, Utilities equipment.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

CEB-PINF-5001: Fight as provisional infantry

SUPPORTED MCT(S):

MCT 1.1.2 MCT 1.4.1 MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Provide provisional infantry participate in offensive operations such as attacks, raids, movement to contact, etc. Defensive operations that include withdrawal, patrolling, check point ops, convoy ops, and employment of organic weapons. Additional responsibilities may include operations other than war (civil disturbance, TRAP, cordon and search) and MOUT (attack, defend, patrol, clear a building, vehicle check point).

CONDITION: Given a requirement, commander's intent and references.

STANDARD: To augment supported unit or conduct offensive and defensive operations in accordance with commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Conduct planning.
- 2. Task organize.
- 3. Issue orders.
- 4. Conduct inspections, rehearsals, and preparations.
- 5. Elements employ appropriate formations and tactics.
- 6. Conduct final preparations.
- 7. Use, coordinate, and observe fires.
- 8. Employ supporting arms as required.
- 9. Establish redundant communications.
- 10. Treat and evacuate casualties as required.
- 11. Process detainees as required.
- 12. Send and receive required reports.

CHAINED EVENTS: CEB-PINF-4001

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RELATED EVENTS:

1302-ADMN-1002 1302-PLAN-1001 1371-ADMN-2002

1371-PLAN-2001

REFERENCES:

1. MCDP 1 Warfighting

- 2. MCDP 1-3 Tactics
- 3. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 4. MCRP 3-02G First Aid
- 5. MCWP 3-11.2 Marine Rifle Squad

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17730 Fire And Movement Range

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Type/quantities of ammunition, explosives and pyrotechnics are documented with the 4000 Level Events Chained to this event.

CEB-RECN-5001: Conduct engineer reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct engineer reconnaissance to collect data and obtain detailed information, within/along designated routes, zones, and/or areas that provides the MAGTF information on terrain and infrastructure (e.g., built-up areas, transportation networks, utilities and existing natural or manmade obstacles/resources) necessary to support ongoing or future operations.

CONDITION: Given a mission, commander's intent, task organization of personnel and equipment, and references.

STANDARD: To gather all relevant engineer data and produce an engineer estimate in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Review reconnaissance plan.
- 2. Analyze support requirements and location(s).
- 3. Conduct final coordination with supported unit (location, requirements, security, ground guides, etc.).
- 4. Conduct final coordination with supporting units (logistics, etc).
- 5. Conduct zone reconnaissance as required.
- 6. Conduct area reconnaissance as required.
- 7. Conduct route reconnaissance as required.
- 8. Conduct host-nation infrastructure assessment as required.
- 9. Submit required reports.

PREREQUISITE EVENTS: 1302-PLAN-1001

CHAINED EVENTS:

CEB-RECN-4001 CEB-RECN-4002 CEB-RECN-4003 CEB-RECN-4006 CEB-RECN-4006

RELATED EVENTS:

1302-RECN-1001 1371-EOPS-2002 1371-EOPS-2003

1371-RECN-2001

REFERENCES:

1. JP 3-34 Engineer Doctrine for Joint Operations

- 2. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 3. MCRP 3-17A Engineering Field Data
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance
- 7. MCWP 3-17.8 Combined Arms Mobility Operations

CEB-RECN-5002: Conduct cache sweep operations

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Conduct cache sweep operations in order to detect, identify and secure materials (documents, discs, tapes, weapons, explosives, ammunition, chemical materials, bombs, electronic equipment, etc.). Appropriate safety and evidentiary preservation measures should be employed during cache sweeps.

CONDITION: Provided a mission, designated area/ building to search for known, potential, or suspected materials that may be used against friendly forces or be of intelligence value.

<u>STANDARD</u>: To detect, identify, and secure materials discovered during the course of the search in accordance with the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Analyze search area intelligence.
- 2. Tasks organize.
- 3. Coordinate with supported unit.
- 4. Coordinate with supporting units.
- 5. Detect cache within search area.
- 6. Identify items within cache(s).
- 7. Mark cache(s) as required.
- 8. Destroy captured enemy ammunition as required.
- 9. Verify cache destruction.
- 10. Coordinate explosive ordnance disposal activities as required.
- 11. Coordinate weapons intelligence team activities as required.
- 12. Coordinate with other specialist personnel as required.
- 13. Document/preserve evidence as required.
- 14. Submit required reports.

CHAINED EVENTS: CEB-RECN-4004

RELATED EVENTS:

1302-DEMO-1004	1302-MOBL-1002	1302-MOBL-1003
1302-MOBL-1009	1371-MOBL-1002	1371-MOBL-1003
1371-MOBL-2018	1371-MOBL-2020	1371-MOBL-2021
1371-MOBL-2022		

REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.4 Engineer Reconnaissance

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer tools and kits.

<u>UNITS/PERSONNEL</u>: Explosive ordnance disposal personnel, Weapons Intelligence Team, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Type/quantities of ammunition, explosives and pyrotechnics are documented with the 4000-Level Events Chained to this event.

<u>CEB-SURV-5001</u>: Construct survivability positions

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Construct positions designed to reduce the vulnerability of personnel, equipment, weapons, and supplies to enemy fire and as a means to enhance force protection. Positions may include fighting and protective positions.

CONDITION: Provided a mission, commander's intent, reconnaissance reports, survivability plan, a task organization of personnel and equipment, and references.

STANDARD: that meets the mission requirements in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Plan survivability construction.
- 2. Analyze engagement areas, battle positions, and weapons location.
- 3. Conduct engineer reconnaissance and survey.

- 4. Coordinate with supported unit for specific position placement and requirements.
- 5. Coordinate resources for project.
- 6. Conduct site preparation.
- 7. Harden existing structure(s) as required.
- 8. Emplace pre-fabricated barriers as required
- 9. Provide SME input to AT/FP plan as required.
- 10. Construct field fortification as required.
- 11. Construct Vehicle Control Point (VCP) as required.
- 12. Construct Entry Access Point (EAP) as required
- 13. Construct earth filled barrier/structure as required.
- 14. Construct individual fighting positions as required.
- 15. Construct vehicle fighting positions as required.
- 16. Construct vehicle survivability/revetment positions as required.
- 17. Construct crew-served weapon positions as required.
- 18. Construct overhead cover as required.
- 19. Construct shelter/bunker as required.
- 20. Construct berms as required.
- 21. Conduct earth moving operations as required.
- 22. Construct triggering screen as required.
- 23. Construct trench as required.
- 24. Provide electrical power as required.
- 25. Submit required reports.

CHAINED EVENTS:

CEB-HEOP-3002	CEB-HEOP-4001	CEB-RECN-4005
CEB-RECN-4006	CEB-SURV-3001	CEB-SURV-3002
CEB-SURV-3003	CEB-SURV-3004	CEB-SURV-3005
CEB-SURV-3006	CEB-SURV-3007	CEB-SURV-3008
CEB-SURV-4001	CEB-SURV-4002	CEB-SURV-4003
CEB-SURV-4004	CEB-SURV-4005	CEB-SURV-4006
CEB-UTIL-4001		

RELATED EVENTS:

KEDAID BVERIO.		
1302-EOPS-1009	1302-RECN-1001	1302-SURV-1001
1302-SURV-1002	1302-SURV-1003	1302-SURV-1004
1302-SURV-1005	1310-HEOP-2001	1310-HORZ-2001
1310-HORZ-2002	1310-HORZ-2003	1310-MANT-2002
1345-HEOP-1004	1345-HEOP-1006	1345-HEOP-1007
1345-HEOP-2006	1345-HEOP-2007	1345-HEOP-2009
1345-HORZ-2001	1345-MANT-2001	1345-MANT-2003
1345-MANT-2004	1349-HEOP-2001	1349-HORZ-2001
1349-HORZ-2002	1349-HORZ-2003	1371-RECN-2001
1371-SURV-2001	1371-SURV-2002	

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17.7K Theater of Operations Electrical Systems
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.4 Engineer Reconnaissance

- 9. MCWP 3-17.6 Survivability
- 10. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 11. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 12. MCWP 3-35.5 Jungle Operations
- 13. MCWP 3-41.1 Rear Area Operations
- 14. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

EQUIPMENT: Combat engineer equipment, Engineer earthmoving equipment, Material Handling Equipment, Utilities equipment.

MATERIAL: Map, Compass, Protractor, Overlay sheets, Reconnaissance
reports.

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: OR

CEB-UTIL-5001: Provide utilities support

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Provide tactical electrical supply and distribution; heating, ventilation, air conditioning and refrigeration service; and maintenance capabilities for specified utilities equipment in accordance with the unit's mission statement.

CONDITION: Given a mission, support plan, equipment availability, personnel, equipment, and references.

STANDARD: To provide support IAW with the concept of operations and in accordance with commander's intent.

EVENT COMPONENTS:

- 1. Coordinate supported unit requirements.
- 2. Establish utilities plan.
- 3. Establish utilities site(s).
- 4. Provide tactical electrical support, as required.
- 5. Provide non-tactical utilities support, as required.
- 6. Provide water production/storage/distribution equipment.
- 7. Maintain utilities equipment.
- 8. Recover utilities equipment, as required.
- 9. Submit required reports.

CHAINED EVENTS:

CEB-MANT-4001 CEB-UTIL-4001

RELATED EVENTS:

1120-ADMN-2001	1120-ADMN-2002	1120-ADMN-2003
1120-ADMN-2004	1120-ADMN-2005	1120-ADMN-2006

1120-ADMN-2012	1120-ADMN-2021
1120-ADMN-2031	1120-ADMN-2051
1120-ADMN-2061	1120-ADMN-2065
1120-ADMN-2072	1120-ADMN-2073
1120-ADMN-2075	1120-ADMN-2081
1120-ADMN-2092	1120-XENG-2501
1120-XENG-2521	1120-XENG-2522
1120-XENG-2555	1120-XENG-2558
1120-XENG-2581	1120-XENG-2621
1120-XENG-2653	1120-XENG-2655
1120-XENG-2721	1120-XENG-2752
1120-XENG-2755	1120-XENG-2758
1120-XENG-2853	1120-XENG-2855
1120-XENG-2965	1120-XENG-2966
1120-XENG-2989	
	1120-ADMN-2031 1120-ADMN-2061 1120-ADMN-2072 1120-ADMN-2075 1120-ADMN-2092 1120-XENG-2521 1120-XENG-2555 1120-XENG-2581 1120-XENG-2653 1120-XENG-2721 1120-XENG-2755 1120-XENG-2755 1120-XENG-2853 1120-XENG-2865

REFERENCES:

- 1. Appropriate Technical Manuals
- 2. NAVMED P-5010-5 Manual of Preventive Medicine, Chapter 5, Water Supply Ashore (Nov 90)
- 3. 29 CFR 1910.147 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 147 Control of Hazardous Energy (Lockout/Tagout)
- 4. 29 CFR 1910.269 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 269 Electrical Power Generation, Transmission, and Distribution
- 5. 29 CFR 1910.301-399 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Subpart S, (Standard Numbers 301-399) Electrical
- 6. 40 CFR 82 Chapter 40, Code of Federal Regulations, Part Number 82 (Protection of Stratospheric Ozone)
- 7. 42 USC 85 VI 7671 Title 42, United States Code, Chapter 85, Subchapter VI, Section 7671 (Ozone Protection)
- 8. FM 5-424 Theater of Operations Electrical Systems
- 9. MCO 5090.1 Chlorofluorocarbons (CFC's) and Halons
- 10. MCRP 3-17B Engineer Forms and Reports
- 11. MCRP 4-11.1D Field Hygiene and Sanitation
- 12. MCRP 4-11B Environmental Considerations
- 13. MCWP 3-17 Engineering Operations
- 14. MCWP 3-17.4 Engineer Reconnaissance
- 15. MCWP 4-11 Tactical-Level Logistics
- 16. MCWP 4-11.4 Maintenance Operations
- 17. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 18. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 19. TB MED 577 Occupational and Environmental Health Sanitary Control and Surveillance of Field Water Supplies
- 20. TB MED 593 Guidelines for Field Waste Management
- 21. TC 3-34.489 The Soldier and the Environment
- 22. TM 11275-15/3_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 23. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment

SUPPORT REQUIREMENTS:

EQUIPMENT: Utilities equipment, Engineer Material Handling Equipment, Motor Transport equipment, HAZMAT handling equipment.

CEB-VERT-5001: Conduct vertical construction

SUPPORTED MCT(S): None

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Conduct vertical construction to build or improve existing structures, or construct base camps, command posts, and maintenance facilities for the GCE.

CONDITION: Given a mission, commander's intent, tactical situation, task organized equipment and personnel, design specifications, construction materials and appropriate references.

STANDARD: To build and/or improve facilities that meet the minimum requirements listed in the design specifications in accordance with the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Plan vertical construction.
- 2. Conduct engineer reconnaissance.
- 3. Conduct survey as required.
- 4. Coordinate resources for project.
- 5. Conduct site preparation.
- 6. Repair facility as required.
- 7. Erect prefabricated structure, as required.
- 8. Construct wood frame structure, as required.
- 9. Construct timber structure, as required.
- 10. Construct expedient drainage structure, as required.
- 11. Wire structure for electricity as required.
- 12. Submit required reports.

PREREOUISITE	FVFNTC.

1302-EOPS-1007	1302-EOPS-1009	1302-VERT-1001
1371-EOPS-2002	1371-EOPS-2003	1371-EOPS-2007
1371-EOPS-2010	1371-EOPS-2011	1371-EOPS-2012
1371-VERT-2001		

CHAINED EVENTS:

CEB-HEOP-3002	CEB-UTIL-3004	CEB-HEOP-4001
CEB-VERT-4001	CEB-VERT-4002	CEB-VERT-4003
CEB-VERT-4004	CEB-VERT-4005	

RELATED EVENTS:

1302-HORZ-1001	1302-RECN-1001	1302-VERT-1001
1371-EOPS-2005	1371-EOPS-2006	1371-EOPS-2007
1371-EOPS-2010	1371-EOPS-2011	1371-HORZ-2002
1371-HORZ-2003	1371-HORZ-2004	1371-HORZ-2005

1371-RECN-1001	1371-VERT-1001	1371-VERT-1002
1371-VERT-1003	1371-VERT-1004	1371-VERT-1005
1371-VERT-2001	1371-VERT-2002	

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. JP 3-15 Barriers, Obstacles, and Mine Warfare for Joint Operations
- 3. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 4. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 5. MCRP 3-17.7C Carpentry
- 6. MCRP 3-17.7D Concrete and Masonry
- 7. MCRP 3-17.7F Project Management
- 8. MCRP 3-17.7I Earthmoving Operations
- 9. MCRP 3-17.7K Theater of Operations Electrical Systems
- 10. MCRP 3-17.7M Construction Estimating
- 11. MCRP 3-17.7N Base Camps
- 12. MCRP 3-17A Engineering Field Data
- 13. MCWP 3-17 Engineering Operations
- 14. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 15. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 16. MCWP 4-11 Tactical-Level Logistics
- 17. TM 5-232 Elements of Construction Surveying

SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer earthmoving equipment, Combat engineer tools & kits, Material Handling Equipment.

4006. 4000-LEVEL EVENTS

<u>CEB-CMOB-4001</u>: Create an explosive obstacle

SUPPORTED MCT(S): MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Create an explosive obstacle to turn, block, fix, or disrupt enemy movement or maneuver of personnel or equipment.

CONDITION: Given a mission, commander's intent, location to emplace the obstacle, task organized personnel and equipment, and resources (Class IV, V, etc.).

STANDARD: That is part of an obstacle group, intended to turn, block, fix, or disrupts enemy personnel or equipment in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Analyze obstacle plan.
- 2. Analyze engagement areas, battle positions, and weapons location.
- 3. Determine actual work sequence.
- 4. Finalize coordination with supported unit for specific obstacle placement

and observation.

- 5. Coordinate overwatch/security for obstacle construction.
- 6. Move to obstacle site.
- 7. Emplace expedient anti-personnel devices as required.
- 8. Account for all personnel and equipment prior to returning to friendly lines
- 9. Coordinate lane closure plan with supported unit as required.
- 10. Submit required reports.

PREREQUISITE EVENTS:

1302-CMOB-1001	1302-CMOB-1002	1302-CMOB-1003
1371-CMOB-2001	1371-CMOB-2002	

CHAINED EVENTS:

CEB-CMOB-3001 CEB-CMOB-3003

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1310-ADMN-2002	1310-ADMN-2006	1310-ADMN-2009
1310-ADMN-2010	1310-HEOP-2001	1310-MANT-2002
1345-ADMN-1002	1345-ADMN-2002	1345-HEOP-1003
1345-HEOP-1004	1345-HEOP-1005	1345-HEOP-1006
1345-HEOP-2009	1345-MANT-1001	1349-ADMN-2002
1349-ADMN-2006	1349-ADMN-2009	1349-ADMN-2010
1349-HEOP-2001	1349-MANT-2002	1371-CMOB-1001
1371-CMOB-1002	1371-CMOB-1003	1371-CMOB-2003
1371-DEMO-1002		

REFERENCES:

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. UNIT SOP Unit's Standing Operating Procedures
- 3. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 4. MCRP 3-17.2D Explosive Hazard Operations
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.4 Engineer Reconnaissance
- 9. MCWP 3-17.8 Combined Arms Mobility Operations
- 10. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
J007 Mine, Antipersonnel M18A 1 with Non-	1 mines per squad
L495 Flare, Surface Trip M49 Series	4 flares per squad
L598 Simulator, Explosive Booby Trap Flas	4 Simulator per squad
M032 Charge, Demolition Block TNT 1-Pound	10 charges per squad
M039 Charge, Demolition Cratering 40-Poun	1 charges per squad
M130 Cap, Blasting Electric M6	10 blasting caps per squad
M131 Cap, Blasting Non-Electric M7	20 blasting caps per squad
M420 Charge, Demolition Shaped M2 Series	1 charges per squad
M421 Charge, Demolition Shaped M3 Series	1 charges per squad
M456 Cord, Detonating PETN Type I Class E	1500 FT per squad
M591 Dynamite, Military M1	10 charges per squad

M670 Fuse, Blasting Time M700

500 FT per squad

M757 Charge, Assembly Demolition M183 Com 2 charges per squad

ML03 Firing Device, Demolition Multi-Purp 2 primers per squad

MN08 Igniter, Time Blasting Fuse with Sho 35 igniters per squad

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17730 Fire And Movement Range

Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer equipment, Material Handling Equipment.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this

CEB-CMOB-4002: Create non-explosive obstacles/barriers

SUPPORTED MCT(S): MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Create non-explosive obstacles/barriers to turn, block, fix, or disrupt enemy movement or maneuver of personnel or equipment.

CONDITION: Given a mission, commander's intent, location to emplace the obstacle, task organized personnel and equipment, and resources (Class IV, natural terrain, battlefield materials, etc.).

STANDARD: That is part of an obstacle group that will turn, block, fix, or disrupts enemy personnel or equipment in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Analyze obstacle plan.
- 2. Analyze engagement areas, battle positions, and weapons location.
- 3. Determine actual work sequence.
- 4. Finalize coordination with supported unit for specific obstacle placement and observation.
- 5. Coordinate overwatch/security for obstacle construction.
- 6. Move to obstacle site.
- 7. Tie obstacles into natural/existing obstacles as required
- 8. Emplace obstacles (barriers, hedgehogs, ect.) as required.
- 9. Emplace wire obstacles as required.
- 10. Emplace field expedient obstacles (logs, abatis, rubble, ect.) as required.
- 11. Create craters as required.
- 12. Emplace deception obstacles as required.

- 13. Create tank ditches as required.
- 14. Account for all personnel and equipment prior to returning to friendly lines.
- 15. Coordinate lane closure plan with supported unit as required.
- 16. Submit required reports.

PREREQUISITE EVENTS:

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1302-CMOB-1001	1302-CMOB-1002	1302-CMOB-1003
1371-CMOB-2001	1371-CMOB-2002	
CHAINED EVENTS:		
CEB-CMOB-3001	CEB-CMOB-3002	CEB-HEOP-3001
CEB-HEOP-3002		
RELATED EVENTS:		
1310-HEOP-2001	1310-HORZ-2001	1310-HORZ-2002
1310-MANT-2002	1316-ADMN-1001	1316-ADMN-1002
1316-ADMN-2001	1316-ADMN-2002	1316-XENG-1001
1316-XENG-1006	1316-XENG-2002	1345-HEOP-1003
1345-HEOP-1004	1345-HEOP-1006	1345-HEOP-2007
1345-HEOP-2009	1345-HORZ-2001	1349-HEOP-2001
1349-HORZ-2001	1349-HORZ-2002	1349-MANT-2002
1371-CMOB-1001	1371-CMOB-1002	1371-CMOB-2003

REFERENCES:

1371-DEMO-1002

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 3. MCRP 3-17A Engineering Field Data
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 7. Unit SOP Unit's Standing Operating Procedures

SUPPORT REQUIREMENTS:

ORDNANCE:

<u></u> v	
DODIC	<u>Quantity</u>
L495 Flare, Surface Trip M49 Series	6 flares per squad
M032 Charge, Demolition Block TNT 1-	Pound 12 charges per squad
M039 Charge, Demolition Cratering 40	-Poun 12 charges per squad
M130 Cap, Blasting Electric M6	12 blasting caps per squad
M131 Cap, Blasting Non-Electric M7	12 blasting caps per squad
M327 Coupling Base, Firing Device wi	th Pr 12 primers per squad
M421 Charge, Demolition Shaped M3 Se	ries 8 charges per squad
M456 Cord, Detonating PETN Type I Cl	ass E 1000 FT per squad
M591 Dynamite, Military M1	10 charges per squad
M670 Fuse, Blasting Time M700	500 FT per squad
M757 Charge, Assembly Demolition M18	3 Com 6 cases per squad
ML03 Firing Device, Demolition Multi	-Purp 12 detonators per squad
MN08 Igniter, Time Blasting Fuse wit:	h Sho 12 igniters per squad
MN14 Firing Device, Dual Mode MK54	12 detonators per squad
MN52 MK154 Mod 0	8 detonators per squad

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17730 Fire And Movement Range

Facility Code 17931 Medium/Heavy Equipment Training Area

EQUIPMENT: Combat engineer equipment, Material Handling Equipment, Engineer earthmoving equipment.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CEB-CMOB-4003: Employ demolitions in support of countermobility operations

SUPPORTED MCT(S): MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Employ demolitions in support of countermobility operations to create mobility obstacles (explosively) such as craters, ditches or to destroy structures (bridges, tunnels, etc.). This could include field expedient explosive obstacles (improvised anti-vehicular/anti-personnel explosive devices) to destroy enemy personnel and equipment.

CONDITION: Provided a mission order, task organized personnel and equipment, Class V, personal protective equipment (PPE), and references.

STANDARD: To construct countermobility obstacles at designated areas/routes to fix, delay, disrupt enemy vehicles and personnel per commander's intent, concept of operations, and mission requirement.

EVENT COMPONENTS:

- 1. Review the mission.
- 2. Coordinate with supporting unit(s).
- 3. Conduct final coordination with supported unit (location, requirements, security, etc.) as required.
- 4. Prepare equipment and materials for operation.
- 5. Move to obstacle sites(s).
- 6. Setup security.
- 7. Prepare charges.
- 8. Place charges.
- 9. Create obstacle(s) as required.
- 10. Inspect obstacle(s) as required.
- 11. Improve obstacle site with support equipment as required.
- 12. Reconstitute the force.
- 13. Submit required reports.

CHAINED EVENTS:

CEB-CMOB-3001 CEB-HEOP-3001 CEB-DEMO-3002 CEB-DEMO-3003

CEB-HEOP-3002

REFERENCES:

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
M023 Charge, Demolition Block M112 1-1/4	20 charges per squad
M032 Charge, Demolition Block TNT 1-Pound	10 charges per squad
M039 Charge, Demolition Cratering 40-Poun	10 charges per squad
M130 Cap, Blasting Electric M6	6 blasting caps per squad
M131 Cap, Blasting Non-Electric M7	6 blasting caps per squad
M420 Charge, Demolition Shaped M2 Series	5 charges per squad
M421 Charge, Demolition Shaped M3 Series	10 charges per squad
M456 Cord, Detonating PETN Type I Class E	1000 FT per squad
M591 Dynamite, Military M1	10 charges per squad
M670 Fuse, Blasting Time M700	500 FT per squad
ML03 Firing Device, Demolition Multi-Purp	6 igniters per squad
MN08 Igniter, Time Blasting Fuse with Sho	6 igniters per squad

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: Engineer Material Handling equipment, Combat engineer Demolitions kit

UNITS/PERSONNEL: Range Safety Officer, Corpsman

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this

CEB-HEOP-4001: Conduct MHE operations

SUPPORTED MCT(S):

MCT 1.4.2 MCT 1.4.1 MCT 4.4.4 MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Provide Material Handling Equipment (MHE) support to enable handling of loads (equipment, supplies, materials, etc.) exceeding carrying capacity of personnel.

CONDITION: Given a mission, commander's intent, personnel and equipment, and references.

STANDARD: To provide support an IAW unit SOPs or guidance to support the concept of operations and in accordance with commander's intent.

EVENT COMPONENTS:

- 1. Review tasking.
- 2. Coordinate with supported unit (location, requirements, security, ground guides, etc.).
- 3. Operate MHE as required.
- 4. Load and unload materiel(s) as required.
- 5. Employ safety measures as required.
- 6. Submit required reports.

PREREQUISITE EVENTS:

1310-MANT-2002	1345-ADMN-1002	1345-ADMN-2002
1345-MANT-2001	1349-ADMN-2002	1349-MANT-2002

CHAINED EVENTS: CEB-HEOP-3001

RELATED EVENTS:

1310-HEOP-2001	1310-HORZ-2001	1310-HORZ-2002
1310-HORZ-2003	1345-HEOP-1003	1345-HEOP-2009
1345-HEOP-2012	1345-HORZ-2001	1349-HEOP-2001
1349-HORZ-2001	1349-HORZ-2002	1349-HORZ-2003

REFERENCES:

- 1. MCRP 3-17B Engineer Forms and Reports
- 2. MCWP 3-41.1 Rear Area Operations
- 3. MCWP 4-11 Tactical-Level Logistics
- 4. MCWP 4-11.4 Maintenance Operations

SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer Material Handling equipment, Engineer support equipment

CEB-MANT-4001: Maintain engineer equipment

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 6 months

<u>DESCRIPTION</u>: Manage and conduct preventive and corrective maintenance on engineer equipment.

CONDITION: With equipment, tools, repair parts, supplies, personnel and references.

STANDARD: To sustain equipment in an operational status at or above units readiness requirements.

EVENT COMPONENTS:

- 1. Monitor equipment readiness.
- 2. Conduct reconciliation.
- 3. Assign tasks.
- 4. Maintain organic tactical engineer equipment.
- 5. Manage maintenance programs.
- 6. Submit required reports.

CHAINED EVENTS:

CEB-MANT-3001	CEB-MANT-3002	CEB-MANT-3003
CEB-MANT-3004	CEB-MANT-3005	CEB-MANT-3006
RELATED EVENTS:		
1169-ADMN-2006	1169-ADMN-2007	1169-ADMN-2012
1169-ADMN-2021	1169-ADMN-2022	1169-ADMN-2041
1169-ADMN-2051	1169-ADMN-2052	1169-ADMN-2061
1169-ADMN-2064	1169-ADMN-2071	1169-ADMN-2072
1169-ADMN-2073	1169-ADMN-2074	1169-ADMN-2075
1310-ADMN-2004	1310-ADMN-2009	1310-MANT-2001
1310-MANT-2002	1341-ADMN-1001	1341-ADMN-1002
1341-ADMN-2002	1341-ADMN-2003	1341-ADMN-2004
1341-MANT-1001	1341-MANT-1002	1341-MANT-2010
1349-ADMN-2002	1349-ADMN-2004	1349-ADMN-2009
1349-ADMN-2010	1349-MANT-2001	1349-MANT-2002

REFERENCES:

- 1. Applicable Technical Manuals Publications
- 2. EMC Electric Motor Controls by American Technical Publishers, Inc.
- 3. Local Standard Operating Procedures (SOP)
- 4. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 5. DoDI 6055.1 DoD Safety and Occupational Health (SOH) Program
- 6. MCO 4731.1_ Oil Analysis Program for Ground Equipment
- 7. MCO 4733.1_ Marine Corps Test, Measurement, and Diagnostics Equipment (TMDE) Calibration and Maintenance Program (CAMP)
- 8. MCO 4790.18_ Corrosion Prevention and Control (CPAC) Program
- 9. MCO 5100.29_ Marine Corps Safety Program
- 10. MCO P4790.2_ MIMMS Field Procedures Manual

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17931 Medium/Heavy Equipment Training Area

 $\underline{\textbf{EQUIPMENT}} \colon$ Tools, sets, chests, and kits.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: A unit may perform any field maintenance tasks for which it is manned, trained and equipped IAW current Maintenance Management policy, Automated Information Systems (AIS) and assigned user roles and responsibilities.

CEB-MOBL-4001: Conduct deliberate breach

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 6 months

DESCRIPTION: Conduct a deliberate breach (mounted and dismounted) to cross a strong and/or well defended obstacle in order to continue the mission.

<u>CONDITION</u>: Provided a tactical scenario, mission, a minefield (or other suitable obstacle), a task-organized breach force with personnel, equipment, and demolitions or explosives in their assault position.

STANDARD: To reduce, proof, and mark lane through a minefield/obstacle in accordance with the mission and commander's intent.

EVENT COMPONENTS:

- 1. Verify obstacle intelligence as required.
- 2. Coordinate suppression of enemy over-watching obstacle.
- 3. Coordinate obscuration of enemy over-watching obstacle.
- 4. Coordinate security for breach lane.
- 5. Coordinate breach with assault force, support force, and support breach team(s).
- 6. Verify suppression/obscuration effects.
- 7. Employ deception plan as required.
- 8. Move to breach site.
- 9. Reduce lane through obstacle.
- 10. Conduct gap crossing with AVLB as required.
- 11. Conduct earthmoving operations as required.
- 12. Proof lane through obstacle.
- 13. Mark lane through obstacle.
- 14. Coordinate passage of assault force through breached lane.
- 15. Turnover lane to designated forces.
- 16. Submit required reports.
- 17. Reconstitute the breach force.

PREREQUISITE EVENTS: CEB-RECN-3006

CHAINED EVENTS:

CEB-HEOP-3002	CEB-MOBL-3001	CEB-MOBL-3003
CEB-MOBL-3005	CEB-MOBL-3006	CEB-MOBL-3012
CEB-RECN-3001		

RELATED EVENTS:

1302-MOBL-1005	1302-MOBL-1009
1302-MOBL-1015	1345-HEOP-1006
1371-MOBL-1001	1371-MOBL-1003
1371-MOBL-2012	1371-MOBL-2020
1371-MOBL-2023	
	1302-MOBL-1015 1371-MOBL-1001 1371-MOBL-2012

REFERENCES:

- 1. FM 21-75 Combat Skills of the Soldier
- 2. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions

- 5. MCWP 3-17.8 Combined Arms Mobility Operations
- 6. TM 08982A-14&P/2B Operator's Manual for MK 155 Mine Clearance System

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
J143 Rocket Motor, 5-inch MK22 Mod 4	4 rocket per squad
M028 Demolition Kit, Bangalore Torpedo M1	1 cases per squad
M032 Charge, Demolition Block TNT 1-Pound	10 charges per squad
M130 Cap, Blasting Electric M6	10 blasting caps per squad
M131 Cap, Blasting Non-Electric M7	20 blasting caps per squad
M456 Cord, Detonating PETN Type I Class E	1500 FT per squad
M670 Fuse, Blasting Time M700	500 FT per squad
M757 Charge, Assembly Demolition M183 Com	2 charges per squad
M913 Charge, Demolition High Explosive Li	1 charges per squad
M914 Charge, Demolition Inert Linear M68A	2 charges per squad
ML03 Firing Device, Demolition Multi-Purp	2 primers per squad
MN08 Igniter, Time Blasting Fuse with Sho	35 igniters per squad
MN79 Mine, Antipersonnel Obstacle Breachi	1 mines per squad

01100++++

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces Facility Code 17830 Light Demolition Range Facility Code 17918 Road/Airfield Construction Training Site

EQUIPMENT: Engineer earthmoving equipment, Combat engineer breaching equipment, Demolition kit, Firing device (M34, MK152 Remote firing device, CD450-4J), Blasting machine, AN/PRC 119, Kevlar helmet, flak vest, hearing protection.

MATERIAL: Engineer stakes, rope, sledge hammer, stake driver, gloves.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event. In addition, mission and situation will dictate which breaching charge will be used.

CEB-MOBL-4002: Conduct hasty/ in-stride breach

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct a hasty/in-stride breach (mounted and dismounted) to quickly overcome unexpected or lightly defended tactical obstacles in order to maintain the momentum of the attack by denying the enemy time to mass

forces at the breach sites.

CONDITION: Provided a tactical scenario, mission, a minefield (or other suitable obstacle), and a task-organized breach force with personnel, equipment, and demolitions or explosives in their assault position.

STANDARD: To reduce, proof, and mark lane through a minefield/obstacle in accordance with the mission, and commander's intent.

EVENT COMPONENTS:

- 1. Verify obstacle intelligence as required.
- 2. Coordinate suppression of enemy over-watching obstacle.
- 3. Coordinate obscuration of enemy over-watching obstacle.
- 4. Coordinate security for breach lane.
- 5. Coordinate breach with element acting as assault force and support force.
- 6. Verify suppression/obscuration effects.
- 7. Employ deception plan as required.
- 8. Move to breach site.
- 9. Reduce lane through obstacle.
- 10. Conduct gap crossing with AVLB as required.
- 11. Conduct earthmoving operations as required.
- 12. Proof lane through obstacle.
- 13. Mark lane through obstacle.
- 14. Coordinate passage of assault force through breached lane.
- 15. Turnover lane to designated forces.
- 16. Submit required reports.
- 17. Reconstitute the breach force.

PREREQUISITE EVENTS: CEB-RECN-3006

CHAINED EVENTS:

CEB-HEOP-3002	CEB-MOBL-3001	CEB-MOBL-3003
CEB-MOBL-3004	CEB-MOBL-3005	CEB-MOBL-3006
CEB-MOBL-3012		

REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCWP 3-17.8 Combined Arms Mobility Operations
- 5. TM 08982A-14&P/2B Operator's Manual for MK 155 Mine Clearance System

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
J143 Rocket Motor, 5-inch MK22 Mod 4	4 rockets per squad
M028 Demolition Kit, Bangalore Torpedo M1	1 cases per squad
M032 Charge, Demolition Block TNT 1-Pound	10 charges per squad
M130 Cap, Blasting Electric M6	10 blasting caps per squad
M131 Cap, Blasting Non-Electric M7	20 blasting caps per squad
M456 Cord, Detonating PETN Type I Class E	1500 FT per squad
M670 Fuse, Blasting Time M700	500 FT per squad
M757 Charge, Assembly Demolition M183 Com	2 charges per squad

M913 Charge, Demolition High Explosive Li 1 charges per squad M914 Charge, Demolition Inert Linear M68A 2 charges per squad ML03 Firing Device, Demolition Multi-Purp 2 primers per squad MN08 Igniter, Time Blasting Fuse with Sho 35 igniters per squad MN79 Mine, Antipersonnel Obstacle Breachi 1 mines per squad

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces
Facility Code 17420 Maneuver/Training Area, Heavy Forces
Facility Code 17830 Light Demolition Range
Facility Code 17918 Road/Airfield Construction Training Site

EQUIPMENT: Engineer earthmoving equipment, Combat engineer breaching equipment, Demolition kit, Firing device (M34, MK 152 Remote firing device, CD450-4J), Blasting machine, AN/PRC 119, Kevlar helmet, flak vest, hearing protection.

MATERIAL: Engineer stakes, rope, sledge hammer, stake driver, gloves.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event. In addition, mission and situation will dictate which breaching charge will be used.

CEB-MOBL-4003: Conduct assault breach

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct an assault breach (mounted and dismounted) to penetrate enemy protective obstacles and continue the assault through an objective.

<u>CONDITION</u>: Provided a tactical scenario, mission, a wire obstacle, minefield or other suitable obstacle, and an element designated as a breach force within the assault forces and references.

STANDARD: To reduce, proof, and mark a lane through protective obstacle in accordance with the mission, commander's intent and unit SOP.

EVENT COMPONENTS:

- 1. Coordinate with supporting elements as required.
- 2. Verify suppression/obscuration effects.
- 3. Move to breach site.
- 4. Reduce lane through obstacle.
- 5. Proof lane through obstacle.
- 6. Mark lane through obstacle.
- 7. Coordinate passage of assault force through breached lane.

- 8. Widen breach lane as required.
- 9. Submit required reports.

PREREQUISITE EVENTS: CEB-RECN-3006

CHAINED EVENTS:

CEB-HEOP-3002	CEB-MOBL-3001	CEB-MOBL-3002
CEB-MOBL-3003	CEB-MOBL-3004	CEB-MOBL-3005
CEB-MOBL-3006		

REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCWP 3-17.8 Combined Arms Mobility Operations
- 5. TM 08982A-14&P/2B Operator's Manual for MK 155 Mine Clearance System

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
J143 Rocket Motor, 5-inch MK22 Mod 4	4 rockets per squad
M028 Demolition Kit, Bangalore Torpedo M1	1 cases per squad
M032 Charge, Demolition Block TNT 1-Pound	10 charges per squad
M130 Cap, Blasting Electric M6	10 blasting caps per squad
M131 Cap, Blasting Non-Electric M7	20 blasting caps per squad
M456 Cord, Detonating PETN Type I Class E	1500 FT per squad
M670 Fuse, Blasting Time M700	500 FT per squad
M757 Charge, Assembly Demolition M183 Com	2 charges per squad
M913 Charge, Demolition High Explosive Li	1 charges per squad
M914 Charge, Demolition Inert Linear M68A	2 charges per squad
ML03 Firing Device, Demolition Multi-Purp	2 primers per squad
MN08 Igniter, Time Blasting Fuse with Sho	35 igniters per squad
MN79 Mine, Antipersonnel Obstacle Breachi	1 mines per squad

RANGE/TRAINING AREA:

Facility Code	17410	Maneuver/Training Area, Light Forces
Facility Code	17420	Maneuver/Training Area, Heavy Forces
Facility Code	17830	Light Demolition Range
Facility Code	17918	Road/Airfield Construction Training Site

EQUIPMENT: Engineer Earthmoving equipment, Combat Engineer Breaching equipment, Demolition kit, Firing device (M34, MK 152 Remote firing device, CD450-4J), Blasting machine, AN/PRC 119, Kevlar helmet, flak vest, hearing protection, Motor Transport equipment, mine detectors, Command and Control equipment.

<u>MATERIAL</u>: Engineer stakes, rope, sledge hammer, stake driver, gloves, POLs requirement, Hand Emplaced Mine Marking System (HEMMS) kit, HazMat containment kit.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event. In addition, mission and situation will dictate which breaching charge will be used.

CEB-MOBL-4004: Conduct covert breach

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 12 months

<u>DESCRIPTION</u>: Conduct a covert (non-explosive) (mounted and dismounted) breach under the cover of darkness/periods of limited visibility that does not alert enemy forces.

CONDITION: Provided a tactical scenario, mission, a minefield (or other suitable obstacle), and a task-organized breach force with personnel, equipment, and demolitions or explosives in their assault position.

STANDARD: To reduce, proof, and mark a lane through a minefield/obstacle, without alerting enemy forces in accordance with the mission and commander's intent.

EVENT COMPONENTS:

- 1. Verify obstacle intelligence as required.
- 2. Coordinate suppressive fires and obscuration of enemy over-watching obstacle if breach is discovered.
- 3. Coordinate security for breach lane.
- 4. Coordinate breach with element acting as assault force and support force.
- 5. Employ deception plan as required.
- 6. Covertly move to breach site.
- 7. Covertly reduce lane through obstacle.
- 8. Covertly proof lane through obstacle.
- 9. Covertly mark lane through obstacle.
- 10. Conduct hasty breach as required.
- 11. Conduct deliberate breach as required.
- 12. Coordinate passage of assault force through breached lane.
- 13. Submit required reports.
- 14. Reconstitute the breach force.

PREREQUISITE EVENTS:

1302-ADMN-1002	1371-ADMN-2002	CEB-RECN-3006
CHAINED EVENTS:		
CEB-HEOP-3002	CEB-MOBL-3001	CEB-MOBL-3002
CEB-MOBL-3004	CEB-MOBL-3005	CEB-MOBL-3006
RELATED EVENTS:		
1302-MOBL-1005	1302-MOBL-1010	1302-RECN-1001
1345-HEOP-1006	1345-HEOP-2007	1345-MANT-1001
1345-MANT-2001	1345-MANT-2003	1345-MANT-2004

1371-MOBL-1001	1371-MOBL-1002	1371-MOBL-2012
1371-MOBL-2022	1371-MOBL-2023	1371-RECN-1001

1371-RECN-2001 **REFERENCES:**

- 1. MCRP 3-17.2D Explosive Hazard Operations
- 2. MCWP 3-1 Ground Combat Operations
- 3. MCWP 3-17.3 MAGTF Breaching Operations
- 4. MCWP 3-17.8 Combined Arms Mobility Operations
- 5. TM 08982A-14&P/2B Operator's Manual for MK 155 Mine Clearance System

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
M028 Demolition Kit, Bangalore Torpedo M1	1 cases per squad
M032 Charge, Demolition Block TNT 1-Pound	10 charges per squad
M130 Cap, Blasting Electric M6	10 blasting caps per squad
M131 Cap, Blasting Non-Electric M7	20 blasting caps per squad
M456 Cord, Detonating PETN Type I Class E	1500 FT per squad
M670 Fuse, Blasting Time M700	500 FT per squad
M757 Charge, Assembly Demolition M183 Com	2 charges per squad
ML03 Firing Device, Demolition Multi-Purp	2 primers per squad
MN08 Igniter, Time Blasting Fuse with Sho	35 igniters per squad

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces Facility Code 17830 Light Demolition Range Facility Code 17918 Road/Airfield Construction Training Site

EQUIPMENT: Engineer Earthmoving equipment, Combat Engineer Breaching equipment, Demolition kit, Firing device (M34, MK 152 Remote firing device, CD450-4J), Blasting machine, AN/PRC 119, Kevlar helmet, flak vest, hearing protection.

MATERIAL: Engineer stakes, rope, sledge hammer, stake driver, gloves.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event. In addition, mission and situation will dictate which breaching charge will be used.

CEB-MOBL-4005: Conduct dismounted route sweep operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 3 months

DESCRIPTION: Conduct dismounted route sweep operations to detect, investigate, mark, report, and reduce Explosive Hazards (EH) and other obstacles along a defined route to enable assured mobility.

<u>CONDITION</u>: Given a mission, commander's intent, a permissive or semipermissive environment, a route to be swept, task organized personnel and equipment, and references.

STANDARD: To ensure all explosive/non-explosive hazards are detected, identified, reduced, proofed, and/or marked to provide sufficient mobility to support the concept of operations and commander's intent integrating all available resources.

EVENT COMPONENTS:

- 1. Analyze search route intelligence.
- 2. Coordinate with supported unit for security as required.
- 3. Coordinate with supporting units.
- 4. Move to search area.
- 5. Detect obstacles along route.
- 6. Alternate detector operators as required to prevent fatigue.
- 7. Identify explosive components of obstacle(s).
- 8. Mark obstacle(s) as required.
- 9. Reduce obstacle as required.
- 10. Verify obstacle reduction.
- 11. Coordinate explosive ordnance disposal activities as required.
- 12. Coordinate with other SME personnel as required.
- 13. Submit required reports.

PREREQUISITE EVENTS: CEB-RECN-4002

CHAINED EVENTS:

CEB-MOBL-3007	CEB-MOBL-3008	CEB-MOBL-3014
RELATED EVENTS:		
1302-MOBL-1002	1302-MOBL-1004	1302-MOBL-1009
1302-MOBL-1010	1371-MOBL-2018	1371-MOBL-2019
1371-MOBL-2020	1371-MOBL-2022	1371-MOBL-2023

REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 3-13.2 MINE WARFARE
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC Quantity

M032 Charge, Demolition Block TNT 1-Pound
M130 Cap, Blasting Electric M6
M456 Cord, Detonating PETN Type I Class E
M670 Fuse, Blasting Time M700
M757 Charge, Assembly Demolition M183 Com
MN08 Igniter, Time Blasting Fuse with Sho
MN88 Cap, Blasting, 500 ft mini-tube M21
MN90 Cap, Blasting, 1000 ft mini-tube M23
M100 Cap Caps per squad
M100 Caps per squad

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: Kevlar helmet, flak vest, AN/PRC 119, mine detectors, probe, compass, protractor, Hand Emplaced Mine Marking System (HEMMS) kit, sickle stick, DA FORM 1355-1-R.

<u>MATERIAL</u>: Engineer tape, concertina wire, barbed wire, engineer stakes, tie wire, mine signs, sandbags.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CEB-MOBL-4006: Conduct security for clearance operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 12 months

DESCRIPTION: Conduct security for clearance operations to provide sweep team freedom of action.

CONDITION: Provided a mission, designated area with
known/potential/suspected obstacle(s), personnel, equipment, intelligence
support and references.

STANDARD: To allow the sweep team freedom of maneuver while conducting sweeping operations in accordance with the concept of operations.

EVENT COMPONENTS:

- 1. Analyze intelligence for designated area.
- 2. Coordinate with supported unit as required.
- 3. Coordinate with supporting units as required.
- 4. Move to area to be cleared.
- Coordinate w/clearance unit on site (as required)
- 6. Establish area clearance security measures (as required).
- 7. Visually identify other potential hazards within area.
- 8. Visually identify potential suspects/civilians in area.
- 9. Control/cordon all movement going into area (as required).

- 10. Maintain communications w/clearance/sweep unit.
- 11. Submit required reports.

PREREQUISITE EVENTS: CEB-RECN-4003

CHAINED EVENTS:

CEB-MOBL-3001 CEB-MOBL-3009 CEB-MOBL-3010

REFERENCES:

- 1. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17B Engineer Forms and Reports
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17730 Fire And Movement Range

EQUIPMENT: Combat engineer equipment, Squad & Fire team weapons, Command and Control assets.

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

CEB-MOBL-4007: Detect obstacles during clearance operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 6 months

<u>DESCRIPTION</u>: Detect obstacles during clearance operations in order to provide the MAGTF assured mobility.

CONDITION: Provided a mission, designated area with known/potential/suspected obstacle(s), personnel, equipment, intelligence support and references.

STANDARD: To ensure all obstacles/explosive hazards are detected, identified, and marked for reduction or bypass in accordance with the concept of operations.

EVENT COMPONENTS:

- 1. Analyze intelligence for designated area.
- 2. Coordinate with supported unit as required.
- 3. Coordinate with supporting units as required.
- 4. Move to area to be cleared.
- 5. Confirm area clearance controls.

- 6. Visually identify all non-explosive obstacles within area.
- 7. Visually detect explosive hazards within area if possible.
- 8. Operate dismounted handheld detectors as required.
- 9. Operate mounted detectors as required.
- 10. Operate other detection equipment as required.
- 11. Alternate detector operators to prevent fatigue as required.
- 12. Mark obstacles for reduction as required.
- 13. Submit required reports.

PREREQUISITE EVENTS: CEB-RECN-4003

CHAINED EVENTS:

CEB-MOBL-3006	CEB-MOBL-3007	CEB-MOBL-3008
CEB-MOBL-3014	CEB-MOBL-3015	
RELATED EVENTS:		
1302-MOBL-1002	1302-MOBL-1003	1302-MOBL-1004
1302-MOBL-1009	1345-HEOP-1006	1345-HEOP-2009
1345-MANT-1001	1345-MANT-2001	1371-MOBL-2018
1371-MOBL-2021	1371-MOBL-2022	1371-MOBL-2024
1371-MOBL-2025	1371-MOBL-2026	1371-MOBL-2027

REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.4 Engineer Reconnaissance
- 8. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17918 Road/Airfield Construction Training Site

EQUIPMENT: Motor Transportation, Engineer equipment, Route clearance assets, Command and Control assets.

CEB-MOBL-4008: Breach obstacles for clearance operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Breach obstacles during clearance operations to ensure the safe passage of combat, CS, and CSS organizations.

CONDITION: Provided a mission, designated area with known/potential/suspected obstacle(s), personnel, engineer tools and

equipment, intelligence support, demolition tools, explosives, and ${\it references}$.

STANDARD: To ensure all explosives and non-explosive hazards, are removed or destroyed in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Analyze intelligence for designated area.
- 2. Coordinate with supported unit as required.
- 3. Coordinate with supporting units as required.
- 4. Move to area to be cleared.
- 5. Confirm area clearance controls.
- 6. Visually identify all non-explosive obstacles within area.
- 7. Visually detect mines, boobytraps, and unexploded ordnance within area if possible.
- 8. Operate mounted mine detectors as required.
- 9. Operated other detection equipment as required.
- 10. Conduct earthmoving operations to detect obstacles as required.
- 11. Alternate detector operators as required to prevent fatigue.
- 12. Mark obstacles for reduction as required.
- 13. Destroy obstacle as required.
- 14. Verify obstacle destruction.
- 15. Submit required reports.

PREREQUISITE EVENTS: CEB-RECN-3006

CHAINED EVENTS: CEB-MOBL-3006 CEB-MOBL-3007 CEB-MOBL-3008 CEB-MOBL-3009 CEB-MOBL-3010 RELATED EVENTS: 1302-MOBL-1002 1302-MOBL-1003 1302-MOBL-1004 1302-MOBL-1009 1302-MOBL-1010 1345-HEOP-1006 1345-HEOP-1006 1345-HEOP-2007 1345-HEOP-2009 1345-MANT-2001 1345-MANT-1001 1371-MOBL-1001 1371-MOBL-1003 1371-MOBL-2020 1371-MOBL-1002 1371-MOBL-2018 1371-MOBL-2021 1371-MOBL-2019 1371-MOBL-2024 1371-MOBL-2022 1371-MOBL-2023 1371-MOBL-2025 1371-MOBL-2026 1371-MOBL-2027

REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.3 MAGTF Breaching Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC Quantity J143 Rocket Motor, 5-inch MK22 Mod 4 3 rockets per squad M028 Demolition Kit, Bangalore Torpedo M1 1 cases per squad M032 Charge, Demolition Block TNT 1-Pound 10 charges per squad M130 Cap, Blasting Electric M6 10 blasting caps per squad M131 Cap, Blasting Non-Electric M7 20 blasting caps per squad M456 Cord, Detonating PETN Type I Class E 1500 FT per squad M670 Fuse, Blasting Time M700 500 FT per squad M757 Charge, Assembly Demolition M183 Com 2 cases per squad M913 Charge, Demolition High Explosive Li 2 charges per squad M914 Charge, Demolition Inert Linear M68A 1 charges per squad ML03 Firing Device, Demolition Multi-Purp 2 detonators per squad MN08 Igniter, Time Blasting Fuse with Sho 35 igniters per squad MN52 MK154 Mod 0 10 detonators per squad MN79 Mine, Antipersonnel Obstacle Breachi 1 mines per squad

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer detection equipment, Engineer Material Handling Equipment, Combat engineer breaching equipment.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event. In addition, mission and situation will dictate which breaching charge will be used.

<u>CEB-MOBL-4009</u>: Conduct route improvement

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Conduct route improvement to maintain the route and to prevent/limit explosive hazard concealment opportunities for the enemy.

CONDITION: Given a tactical situation, an operations order, commander's intent, a route to be improved, task organized personnel and equipment, engineer reconnaissance reports, and references.

STANDARD: To maintain the route in support of maneuver operations in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Analyze engineer reconnaissance report(s).
- 2. Coordinate with route clearance mission commander (for repair materials, logistics, security, etc.).
- 3. Confirm improvement requirements.
- 4. Move to improvement area.
- 5. Operate as part of route clearance team.
- 6. Visually detect explosive and other hazards as required.
- 7. Identify surface repairs as required.
- 8. Operate engineer equipment as required.
- 9. Remove obstructions (i.e., rubble/debris, vegetation, trash) as required.
- 10. Remove upheaval to required specifications.
- 11. Remove berms as required.
- 12. Place additional fill/ stabilization/ reinforcement materials as required.
- 13. Identify drainage structure repairs as required.
- 14. Conduct culvert denial activities as required.
- 15. Submit required reports.

PREREQUISITE EVENTS: CEB-RECN-5001

CHAINED EVENTS:

RELATED EVENTS:		
1302-MOBL-1002	1302-MOBL-1003	1302-MOBL-1004
1302-MOBL-1009	1302-MOBL-1010	1302-RECN-1001
1371-HORZ-2003	1371-MOBL-2020	1371-MOBL-2021
1371-MOBL-2022	1371-MOBL-2023	1371-MOBL-2024
1371-MOBL-2025	1371-MOBL-2026	1371-MOBL-2027
1371-RECN-1001	1371-RECN-2001	

CEB-MOBL-3014

REFERENCES:

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. GTA 5-7-13 Bridge Classification Booklet
- 3. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 4. MCRP 3-17.2D Explosive Hazard Operations
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 3-17.3 MAGTF Breaching Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.5 Combined Arms Countermobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17918 Road/Airfield Construction Training Site

EQUIPMENT: Combat engineer equipment, Engineer equipment

CEB-MOBL-4010: Install Rope Bridge

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Install a rope bridge to allow mobility of forces over gaps (wet or dry).

CONDITION: Provided a mission, commanders intent, wet or dry gap crossing site, rigging components, tools, task organized personnel, and references.

<u>STANDARD</u>: To meet design specifications, concept of operations and commander's intent, while observing safety precautions during assembly and installation in accordance with the concept of operations.

EVENT COMPONENTS:

- 1. Review references/directives/specifications.
- 2. Review gap specific engineer reconnaissance information.
- 3. Verify gap physical characteristics.
- 4. Brief/instruct the squad on the mission/assignment.
- 5. Construct/ emplace near shore anchor.
- 6. Construct initial rope bridge on near shore.
- 7. Construct far shore anchor.
- 8. Position initial bridge.
- 9. Upgrade bridge to desired characteristics.
- 10. Submit required reports.

PREREQUISITE EVENTS: CEB-RECN-5001

CHAINED EVENTS:

CEB-HEOP-3002 CEB-MOBL-3014

RELATED EVENTS:

1302-MOBL-1002	1302-MOBL-1003	1302-MOBL-1004
1302-MOBL-1009	1302-MOBL-1010	1302-RECN-1001
1371-HORZ-2003	1371-MOBL-2020	1371-MOBL-2021
1371-MOBL-2022	1371-MOBL-2023	1371-MOBL-2024
1371-MOBL-2025	1371-MOBL-2026	1371-MOBL-2027
1371-RECN-1001	1371-RECN-2001	

REFERENCES:

- 1. MCRP 3-17.7J Rigging Techniques, Procedures, and Applications
- 2. MCRP 3-17A Engineering Field Data
- 3. MCRP 3-17B Engineer Forms and Reports

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Combat engineer equipment.

CEB-MOBL-4011: Employ demolitions in support of mobility operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Employ demolitions in support of mobility operations to reduce/destroy obstacles (explosive and non-explosive) that present mobility impediments to Operating forces on routes.

CONDITION: Provided a mission order, task organized personnel and equipment, Class V, personal protective equipment (PPE), and references.

STANDARD: To reduce mobility obstacles on designated routes and ensure mobility in accordance in the commander's intent, concept of operations and mission requirement.

EVENT COMPONENTS:

- 1. Review the mission.
- 2. Coordinate with supporting unit(s).
- 3. Conduct final coordination with supported unit (location, requirements, security, etc.) as required.
- 4. Prepare equipment and materials for operation.
- 5. Move to obstacle sites(s).
- 6. Setup security.
- 7. Prepare charges.
- 8. Place charges.
- 9. Reduce obstacle(s).
- 10. Proof obstacle(s).
- 11. Clear site with support equipment as required.
- 12. Reconstitute obstacle clearing force.
- 13. Submit required reports.

PREREQUISITE EVENTS:

1302-ADMN-1002	1302-PLAN-1001	1371-ADMN-2002
1371-PLAN-2001		

CHAINED EVENTS:

CEB-HEOP-3001	CEB-HEOP-3002	CEB-MOBL-3002
CEB-MOBL-3002	CEB-MOBL-3003	CEB-MOBL-3004
CEB-MOBL-3005	CEB-MOBL-3006	CEB-MOBL-3007
CEB-MOBL-3008		

REFERENCES:

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC					Quantity
M023 Charge,	Demolition	Block	M112	1-1/4	30 charges per squad

M032 Charge, Demolition Block TNT 1-Pound	30 charges per squad
M130 Cap, Blasting Electric M6	10 blasting caps per squad
M131 Cap, Blasting Non-Electric M7	20 blasting caps per squad
M456 Cord, Detonating PETN Type I Class E	2000 FT per squad
M591 Dynamite, Military M1	20 charges per squad
M670 Fuse, Blasting Time M700	1000 FT per squad
ML03 Firing Device, Demolition Multi-Purp	10 detonators per squad
MN08 Igniter, Time Blasting Fuse with Sho	30 igniters per squad
MN52 MK154 Mod 0	10 detonators per squad

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: Engineer Material Handling equipment, Combat engineer Demolitions kit

OTHER SUPPORT REQUIREMENTS: Range Safety officer, Corpsman

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event. In addition, mission and situation will dictate which breaching charge will be used.

CEB-PINF-4001: Fight as provisional infantry

SUPPORTED MCT(S):

MCT 1.1.2 MCT 1.4.1 MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Fight as provisional infantry participate in offensive operations such as attacks, raids, movement to contact, etc. Defensive operations that include withdrawal, patrolling, check point ops, convoy ops, and employment of organic weapons. Additional responsibilities may include operations other than war (civil disturbance, TRAP, cordon and search) and MOUT (attack, defend, patrol, clear a building, vehicle check point).

CONDITION: Given a requirement, commander's intent and references.

STANDARD: To augment supported unit or conduct offensive and defensive operations in accordance with commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Conduct planning.
- 2. Task organize.
- 3. Issue orders.
- 4. Conduct inspections, rehearsals, and preparations.
- 5. Elements employ appropriate formations and tactics.
- 6. Conduct final preparations.
- 7. Use, coordinate, and observe fires.
- 8. Employ supporting arms as required.

- 9. Establish redundant communications.
- 10. Treat and evacuate casualties as required.
- 11. Process detainees as required.
- 12. Send and receive required reports.

CHAINED EVENTS:

CEB-MOBL-3009 CEB-MOBL-3010

REFERENCES:

- 1. MCDP 1 Warfighting
- 2. MCDP 1-3 Tactics
- 3. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 4. MCRP 3-02G First Aid
- 5. MCWP 3-11.2 Marine Rifle Squad

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17413 Field Training Area Facility Code 17730 Fire And Movement Range

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Type/quantities of ammunition, explosives and pyrotechnics are documented with the 3000-Level Events Chained to this event.

CEB-RECN-4001: Conduct zone reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 6 months

DESCRIPTION: Conduct zone reconnaissance to reconnoiter a delineated area to compile pertinent information and to clarify the threat situation, gather obstacle/terrain intelligence, and zone infrastructure.

CONDITION: Given a mission, commander's intent, task organized personnel and equipment, and references.

STANDARD: To gather all relevant engineer data, and produce an engineer estimate (or designated products or guidance) in accordance with unit SOPs, the concept of operations and the commander's intent.

- 1. Review mission.
- 2. Coordinate support requirements and location(s).
- 3. Conduct final coordination with supported unit (location, requirements, security, etc.).
- 4. Conduct final coordination with supporting units (logistics, etc).
- 5. Conduct final rehearsals and immediate action drills, as required.
- 6. Reconnoiter for enemy threat, as required.
- 7. Reconnoiter routes, as required.

- 8. Reconnoiter infrastructures as, required.
- 9. Reconnoiter for obstacles as, required.
- 10. Submit required reports.

1302-ADMN-1002 1302-PLAN-1001 1371-ADMN-2002

1371-PLAN-2001

CHAINED EVENTS:

 CEB-RECN-3001
 CEB-RECN-3002
 CEB-RECN-3003

 CEB-RECN-3004
 CEB-RECN-3006
 CEB-RECN-3007

CEB-RECN-3008

REFERENCES:

1. JP 3-34 Engineer Doctrine for Joint Operations

- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. GTA 5-7-13 Bridge Classification Booklet
- 5. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17730 Fire And Movement Range

EQUIPMENT: Combat engineer equipment.

CEB-RECN-4002: Conduct route reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct route reconnaissance to reconnoiter specific routes to compile pertinent information and to clarify the threat situation, gather obstacle/terrain intelligence, infrastructure.

CONDITION: Given a mission, commander's intent, task organized personnel and equipment, and references.

STANDARD: To gather all relevant engineer data, and produce an engineer estimate (or designated products or guidance) in accordance with unit SOPs, the concept of operations and the commander's intent.

- 1. Review mission.
- 2. Issue the order.
- 3. Coordinate support requirements.

- 4. Conduct final coordination with supported unit (location, requirements and security).
- 5. Conduct final coordination with supporting units, as required.
- 6. Conduct final rehearsals and immediate action drills, as required.
- 7. Reconnoiter roads/routes, as required.
- 8. Reconnoiter tunnels, as required.
- 9. Reconnoiter bridges, as required.
- 10. Reconnoiter for fords/ferries, as required.
- 11. Reconnoiter for landing zones, as required.
- 12. Submit required reports.

1302-ADMN-1002 1302-PLAN-1001 1371-ADMN-2002 1371-PLAN-2001

CHAINED EVENTS:

CEB-RECN-3001	CEB-RECN-3002	CEB-RECN-3004
CEB-RECN-3006	CEB-RECN-3007	CEB-RECN-3008
CEB-RECN-4002		

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. GTA 5-7-13 Bridge Classification Booklet
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.4 Engineer Reconnaissance

SUPPORT REQUIREMENTS:

EQUIPMENT: Combat engineer equipment

CEB-RECN-4003: Conduct area reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct area reconnaissance to reconnoiter an area to compile pertinent information and to clarify the threat situation, gather obstacle/terrain intelligence, area infrastructure in established lateral boundaries.

CONDITION: Given a mission, commander's intent, task organized personnel and equipment, and references.

STANDARD: To gather all relevant data, and produce an engineer estimate (or designated products or guidance) in accordance with unit SOPs, the concept of operations and the commander's intent.

- 1. Review mission.
- 2. Issue the order.
- 3. Coordinate support requirements.
- 4. Conduct final coordination with supported unit (location, requirements, security, etc.).
- 5. Conduct final coordination with supporting units, as required.
- 6. Conduct final rehearsals and immediate action drills, as required.
- 7. Reconnoiter roads/routes to specified area, as required.
- 8. Reconnoiter infrastructure/facilities in specified area, as required.
- 9. Reconnoiter obstacles in specified area, as required.
- 10. Reconnoiter structures in specified area, as required.
- 11. Submit required reports.

1302-ADMN-1002	1302-PLAN-1001	1371-ADMN-2002
1371-PLAN-2001		

CHAINED EVENTS:

CEB-RECN-3001	CEB-RECN-3002	CEB-RECN-3003
CEB-RECN-3004	CEB-RECN-3005	CEB-RECN-3006
CEB-RECN-3007	CEB-RECN-3008	

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. GTA 5-7-13 Bridge Classification Booklet
- 5. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 9. MCWP 3-17 Engineering Operations
- 10. MCWP 3-17.4 Engineer Reconnaissance
- 11. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces

EQUIPMENT: Combat engineer equipment

CEB-RECN-4004: Conduct cache sweep

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 3 months

DESCRIPTION: Conduct cache sweep operations in order to detect, identify and secure materials (documents, discs, tapes, weapons, explosives, ammunition, chemical materials, bombs, electronic equipment, etc.). Appropriate safety and evidentiary preservation measures should be employed during cache sweeps.

CONDITION: Provided a mission, designated area/building to search for known, potential or suspected materials that may be used against friendly forces or be of intelligence value.

<u>STANDARD</u>: To detect, identify and secure materials discovered during the course of the search in accordance with the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Analyze search area intelligence.
- 2. Task organize.
- 3. Coordinate with supported unit.
- 4. Coordinate with supporting units.
- 5. Detect cache within search area.
- 6. Identify items within cache(s).
- 7. Mark cache(s) as required.
- 8. Destroy captured enemy ammunition as required.
- 9. Verify cache destruction
- 10. Coordinate explosive ordnance disposal activities as required.
- 11. Coordinate with other specialist personnel as required.
- 12. Document/preserve evidence as required.
- 13. Submit required reports.

PREREQUISITE EVENTS:

1302-ADMN-1002	1302-PLAN-2001	1371-ADMN-2002
1371-PLAN-2001		

CHAINED EVENTS: CEB-RECN-3003

RELATED EVENTS:

1302-DEMO-1004	1302-MOBL-1002	1302-MOBL-1003
1302-MOBL-1009	1371-MOBL-1002	1371-MOBL-1003
1371-MOBL-2018	1371-MOBL-2020	1371-MOBL-2021
1371-MOBL-2022		

REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data
- 6. MCWP 3-1 Ground Combat Operations
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.4 Engineer Reconnaissance

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	<u>Quantity</u>
K143 Mine, Antipersonnel M18A1 with M57 F	1 mines per squad
L495 Flare, Surface Trip M49 Series	4 flares per squad
L598 Simulator, Explosive Booby Trap Flas	4 Simulator per squad

M032 Charge, Demolition Block TNT 1-Pound	10 charges per squad
M039 Charge, Demolition Cratering 40-Poun	1 charges per squad
M130 Cap, Blasting Electric M6	10 blasting caps per squad
M131 Cap, Blasting Non-Electric M7	20 blasting caps per squad
M420 Charge, Demolition Shaped M2 Series	1 charges per squad
M421 Charge, Demolition Shaped M3 Series	1 charges per squad
M456 Cord, Detonating PETN Type I Class E	1500 FT per squad
M591 Dynamite, Military M1	10 charges per squad
M670 Fuse, Blasting Time M700	500 FT per squad
M757 Charge, Assembly Demolition M183 Com	2 charges per squad
ML03 Firing Device, Demolition Multi-Purp	2 igniters per squad
MN08 Igniter, Time Blasting Fuse with Sho	35 igniters per squad

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17730 Fire And Movement Range

Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat Engineer detection equipment

<u>UNITS/PERSONNEL</u>: Explosive Ordinance Personnel, Weapons Intelligence team, Corpsman

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

<u>CEB-RECN-4005</u>: Conduct engineer reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct engineer reconnaissance to compile pertinent engineer information on all aspects pertaining to mobility, countermobility, survivability, and general engineering while conducting a zone, area, or route reconnaissance that has any engineer implications.

CONDITION: Given a mission, commander's intent, task organized personnel and equipment, and references.

STANDARD: to gather all relevant engineer data, and produce an engineer estimate (or designated products or guidance) in accordance with unit SOPs, the concept of operations and the commander's intent.

- 1. Review mission.
- 2. Coordinate support requirements and location(s).
- 3. Conduct final coordination with supported unit (location, requirements,

security, etc.).

- 4. Conduct final coordination with supporting units (logistics, etc).
- 5. Conduct final rehearsals and immediate action drills as required.
- 6. Reconnoiter for engineer equipment as required.
- 7. Reconnoiter for facilities as required.
- 8. Reconnoiter structures as required.
- 9. Reconnoiter for trafficability on routes as required.
- 10. Reconnoiter for obstacles as required.
- 11. Reconnoiter for water points as required.
- 12. Reconnoiter airfields\landing zones as required.
- 13. Reconnoiter for bivouac sites as required.
- 14. Conduct humanitarian assistance analysis as required.
- 15. Conduct disaster relief analysis as required.
- 16. Submit required reports.

PREREQUISITE EVENTS:

1302-ADMN-1002	1302-PLAN-1001	1371-ADMN-2002
1371-PLAN-2001		

CHAINED EVENTS:

CEB-RECN-3001	CEB-RECN-3002	CEB-RECN-3003
CEB-RECN-3004	CEB-RECN-3005	CEB-RECN-3006
CEB-RECN-3007	CEB-RECN-3008	

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. GTA 5-7-13 Bridge Classification Booklet
- 5. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 9. MCWP 3-17 Engineering Operations
- 10. MCWP 3-17.4 Engineer Reconnaissance
- 11. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17730 Fire And Movement Range

EQUIPMENT: Combat Engineer equipment

CEB-RECN-4006: Conduct site survey

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Conduct site survey to reconnoiter a site or area as part of survey, liaison and reconnaissance party to allow critical planning of

specific construction and or operations in support of the MAGTF.

CONDITION: Provided a mission order, task organized personnel and equipment, and references.

STANDARD: To allow for critical planning of facilities and projects in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Review the mission.
- 2. Coordinate with supporting unit as required.
- 3. Conduct final coordination with supported unit (location, requirements, security, etc.) as required.
- 4. Move to site or area.
- 5. Gather critical information as required.
- 6. Make liaisons as required.
- 7. Develop draft plans and schematics as required.
- 8. Plan resources as required.
- 9. Submit required reports.

PREREQUISITE EVENTS:

1302-ADMN-1002 1371-PLAN-2001 1371-ADMN-2002

CHAINED EVENTS: CEB-RECN-3005

REFERENCES:

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. MCRP 3-17.7F Project Management
- 3. MCRP 3-17A Engineering Field Data
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance

SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer survey equipment

<u>UNITS/PERSONNEL</u>: Engineer surveyor 1361

<u>CEB-SURV-4001</u>: Harden existing structure

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Harden existing structure in order to reduce the vulnerability of personnel, equipment, weapons, and supplies to enemy fire and as a means to enhance force protection.

<u>CONDITION</u>: Provided a mission, in an urban environment, commander's intent, reconnaissance reports, and survivability plan, a task organization of personnel and equipment, and references.

STANDARD: To meet the mission requirements in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Review mission.
- 2. Review engineer reconnaissance and survey reports.
- 3. Coordinate with supported unit for specific position requirements.
- 4. Coordinate resources for project.
- 5. Conduct site preparation.
- 6. Construct perimeter security, as required.
- 7. Shore walls/ floors/ roofs, as required.
- 8. Remove/ reinforce windows, as required.
- 9. Compartmentalize interior of structure, as required.
- 10. Emplace prefabricated barrier(s), as required.
- 11. Construct earth filled barrier/structure(s), as required.
- 12. Conduct earthmoving operations, as required.
- 13. Construct overhead cover, as required.
- 14. Construct shelter/bunker, as required.
- 15. Construct triggering screen, as required.
- 16. Provide tactical power, as required.
- 17. Submit required reports.

PREREQUISITE EVENTS:

CEB-RECN-3005	CEB-RECN-4005	CEB-RECN-4006
CHAINED EVENTS:		
CEB-HEOP-3001	CEB-HEOP-3002	CEB-SURV-3005
CEB-SURV-3007	CEB-UTIL-3001	CEB-UTIL-3003
CEB-UTIL-3004		
RELATED EVENTS:		
1302-EOPS-1001	1302-EOPS-1002	1302-EOPS-1003
1302-EOPS-1009	1302-RECN-1001	1302-SURV-1001
1371-EOPS-2005	1371-EOPS-2006	1371-EOPS-2007
1371-EOPS-2010	1371-EOPS-2011	1371-EOPS-2012
1371-HORZ-2004	1371-HORZ-2005	1371-RECN-2001
1371-SURV-1001	1371-SURV-2001	1371-SURV-2002
1371-VERT-1001	1371-VERT-1002	1371-VERT-1003
1371-VERT-1004	1371-VERT-1005	1371-VERT-2001
1371-VERT-2002		

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. FM 5-553 General Drafting
- 4. JP 3-15 Barriers, Obstacles, and Mine Warfare for Joint Operations
- 5. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 6. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 7. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 8. MCRP 3-17.7C Carpentry
- 9. MCRP 3-17.7D Concrete and Masonry
- 10. MCRP 3-17.7F Project Management

- 11. MCRP 3-17.7I Earthmoving Operations
- 12. MCRP 3-17.7L Explosives and Demolitions
- 13. MCRP 3-17A Engineering Field Data
- 14. MCRP 3-17B Engineer Forms and Reports
- 15. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 16. MCWP 3-13.2 MINE WARFARE
- 17. MCWP 3-17 Engineering Operations
- 18. MCWP 3-17.4 Engineer Reconnaissance
- 19. MCWP 3-17.6 Survivability
- 20. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17420 Maneuver/Training Area, Heavy
Forces

EQUIPMENT: Engineer Material Handling equipment, Engineer Earthmoving equipment, Combat Engineer tools &kits, Utilities equipment

CEB-SURV-4002: Construct field fortifications

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Construct field fortifications that reduce the vulnerability of personnel, equipment, weapons, and supplies to enemy fire, increase effectiveness of friendly weapons, and as a means to enhance force protection.

CONDITION: Provided a mission, commander's intent, reconnaissance reports, a task organization of personnel and equipment, and references.

STANDARD: To meet mission requirements in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Review mission.
- 2. Review engineer reconnaissance and survey.
- 3. Coordinate with supported unit for specific position placement and requirements.
- 4. Construct survivability positions, as required.
- 5. Construct wire obstacles, as required.
- 6. Construct field expedient obstacles, as required.
- Construct/emplace barrier(s), as required.
- 8. Construct/emplace explosive obstacle(s), as required.
- 9. Conduct vertical construction, as required.
- 10. Harden existing structures, as required.
- 11. Conduct earthmoving operations, as required.
- 12. Provide tactical power, as required.
- 13. Submit required reports.

PREREQUISITE EVENTS:

CEB-RECN-3005	CEB-RECN-4005

CHAINED EVENTS:		
CEB-HEOP-3001	CEB-HEOP-3002	CEB-SURV-3001
CEB-SURV-3002	CEB-SURV-3003	CEB-SURV-3004
CEB-SURV-3005	CEB-SURV-3006	CEB-SURV-3007
CEB-SURV-3008	CEB-UTIL-3001	CEB-UTIL-3003
CEB-UTIL-3004		
RELATED EVENTS:		
1302-CMOB-1001	1302-CMOB-1003	1302-EOPS-1001
1302-EOPS-1002	1302-EOPS-1003	1302-EOPS-1009
1302-RECN-1001	1302-SURV-1001	1302-SURV-1002
1302-SURV-1003	1302-SURV-1005	1371-CMOB-1001
1371-CMOB-1001	1371-CMOB-1002	1371-CMOB-1003
1371-CMOB-2001	1371-CMOB-2002	1371-CMOB-2003
1371-DEMO-1001	1371-EOPS-1001	1371-EOPS-2005
1371-EOPS-2006	1371-EOPS-2010	1371-EOPS-2011
1371-EOPS-2012	1371-HORZ-1001	1371-HORZ-1002
1371-HORZ-1003	1371-HORZ-2004	1371-HORZ-2005
1371-SURV-1001	1371-VERT-1001	1371-VERT-1002
1371-VERT-1003	1371-VERT-1004	1371-VERT-1005

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance
- 7. MCWP 3-17.6 Survivability
- 8. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 9. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 10. MCWP 3-41.1 Rear Area Operations
- 11. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17420 Maneuver/Training Area, Heavy

EQUIPMENT: Engineer Earthmoving equipment, Combat Engineer tools and equipment

MATERIAL: Map, Compass, Protractor, Overlay sheets, Reconnaissance reports

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

CEB-SURV-4003: Construct Vehicle Control Point (VCP)

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 12 months **DESCRIPTION:** Construct Vehicle Control Point (VCP) to control, restrict and monitor movement of personnel and equipment and to gain information/data on suspected vehicles during military operations.

CONDITION: Provided a mission, commander's intent, intelligence reports, task organization of personnel and equipment, class IV, and references.

STANDARD: To gain information and maintain control of vehicles, pedestrians, and materials in accordance with mission requirements and commander's intent.

EVENT COMPONENTS:

- 1. Review mission.
- 2. Review intelligence reports.
- 3. Coordinate with supported unit for specific position requirements.
- 4. Coordinate resources for project.
- 5. Coordinate security as required.
- 6. Conduct site preparation and layout.
- 7. Construct survivability positions as required.
- 8. Emplace prefabricated barrier(s) as required.
- 9. Construct wire obstacles as required.
- 10. Construct expedient obstacles as required.
- 11. Construct earth filled barrier/structure(s) as required.
- 12. Conduct earthmoving operations as required.
- 13. Establish vehicle waiting area as required.
- 14. Construct search lanes as required.
- 15. Construct personnel search area(s) as required.
- 16. Construct/emplace signs as required.
- 17. Provide tactical power, as required.
- 18. Submit required reports.

PREREQUISITE EVENTS: CEB-RECN-4003

CHAINED EVENTS:

CEB-HEOP-3001	CEB-HEOP-3002	CEB-SURV-3002
CEB-SURV-3003	CEB-SURV-3004	CEB-SURV-3005
CEB-SURV-3007	CEB-SURV-3008	CEB-UTIL-3001
CEB-UTIL-3002	CEB-UTIL-3003	

RELATED EVENTS:

1302-CMOB-1001	1302-CMOB-1002	1302-CMOB-1003
1302-EOPS-1007	1302-EOPS-1009	1302-SURV-1001
1302-SURV-1002	1302-SURV-1003	1371-CMOB-1001
1371-CMOB-1002	1371-CMOB-1003	1371-CMOB-2001
1371-CMOB-2002	1371-DEMO-1001	1371-EOPS-2006
1371-EOPS-2007	1371-EOPS-2010	1371-EOPS-2011
1371-EOPS-2012	1371-SURV-1001	1371-VERT-1001
1371-VERT-1002	1371-VERT-1004	

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration

- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance
- 7. MCWP 3-17.6 Survivability
- 8. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 9. MCWP 3-41.1 Rear Area Operations
- 10. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer Material Handling Equipment, Engineer Earthmoving equipment, Combat Engineer tools & kits.

MATERIAL: Map, Compass, Protractor, Overlay Sheets, Reconnaissance
Reports.

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

CEB-SURV-4004: Construct Entry Access Point (EAP)

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 12 months

DESCRIPTION: Construct Entry Access Point to prevent unauthorized personnel into military facilities.

CONDITION: Provided a mission, commanders intent, intelligence reports, task organization of personnel and equipment, Class IV, and references.

STANDARD: To control and monitor access of vehicles, pedestrians, and materials onto military facilities in accordance with the concept of operations and commander's intent.

- 1. Review mission.
- 2. Review force protection requirements.
- 3. Coordinate resources for project.
- 4. Coordinate security as required.
- 5. Conduct site preparation and layout.
- 6. Construct survivability positions, as required.
- 7. Emplace prefabricated barrier(s), as required.
- 8. Construct wire obstacles, as required.
- 9. Construct expedient obstacles, as required.
- 10. Construct earth filled barrier/structure(s), as required.
- 11. Conduct earthmoving operations, as required.
- 12. Establish vehicle turn-around area, as required.
- 13. Establish pedestrian lanes, as required.
- 14. Construct personnel search area(s), as required.
- 15. Construct/emplace signs, as required.

- 16. Provide tactical power, as required.
- 17. Submit required reports.

CHAINED EVENTS:		
CEB-HEOP-3001	CEB-HEOP-3002	CEB-SURV-3002
CEB-SURV-3003	CEB-SURV-3004	CEB-SURV-3005
CEB-SURV-3006	CEB-SURV-3007	CEB-SURV-3008
CEB-UTIL-3001	CEB-UTIL-3002	CEB-UTIL-3003
RELATED EVENTS:		
1302-CMOB-1001	1302-CMOB-1002	1302-CMOB-1003
1302-EOPS-1007	1302-EOPS-1009	1302-SURV-1001
1302-SURV-1002	1302-SURV-1003	1371-CMOB-1001
1371-CMOB-1002	1371-CMOB-1003	1371-CMOB-2001
1371-CMOB-2002	1371-DEMO-1001	1371-EOPS-2006
1371-EOPS-2007	1371-EOPS-2010	1371-EOPS-2011
1371-EOPS-2012	1371-SURV-1001	1371-VERT-1001
1371-VERT-1002	1371-VERT-1004	

REFERENCES:

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. MCRP 3-17.7L Explosives and Demolitions
- 3. MCRP 3-17A Engineering Field Data
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 8. MCWP 3-41.1 Rear Area Operations
- 9. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer Earthmoving equipment, Combat Engineer tools & kits

MATERIAL: Map, Compass, Protractor, Overlay Sheets, Reconnaissance Reports.

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

CEB-SURV-4005: Construct earth filled barrier/structure

SUPPORTED MCT(S): MCT 6.1.4

SUSTAINMENT INTERVAL: 12 months **EVALUATION-CODED:** YES

DESCRIPTION: Construct earth filled barrier/structure in support of survivability of the force.

CONDITION: Provided a mission, commander's intent, reconnaissance reports, a task organization of personnel and equipment, and references.

STANDARD: That supports the mission requirements and concept of operations in accordance with the commander's intent.

EVENT COMPONENTS:

- 1. Review mission.
- 2. Review engineer reconnaissance and survey.
- 3. Coordinate with supported unit for specific placement and requirements.
- 4. Construct/emplace barrier(s), as required.
- 5. Conduct earthmoving operations, as required.
- 6. Submit required reports.

PREREQUISITE EVENTS:

1302-ADMN-1002	1302-PLAN-1001	1302-RECN-1001
1371-ADMN-2002	1371-PLAN-2001	1371-RECN-2001
CEB-RECN-3005		

CHAINED EVENTS:

CEB-HEOP-3002 CEB-RECN-3005 CEB-RECN-4005

REFERENCES:

- 1. MCRP 3-17.7I Earthmoving Operations
- 2. MCRP 3-17A Engineering Field Data
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.4 Engineer Reconnaissance
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 7. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer Earthmoving equipment

<u>CEB-SURV-4006</u>: Employ demolitions in support of survivability operations

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Employ demolitions in support of survivability operations to support the defense of friendly positions or clearance of natural/man-made obstacles for fields of fire to eliminate enemy cover and concealment.

CONDITION: Provided a mission order, task organized personnel and equipment, Class V, personal protective equipment (PPE), and references.

STANDARD: To enhance friendly survivability positions and fields of fire to defeat the enemy per the commander's intent and concept of operations.

- 1. Review the mission.
- 2. Coordinate with supporting unit(s).
- 3. Conduct final coordination with supported unit (location, requirements, security, etc.) as required.

- 4. Prepare personnel for mission requirements as required.
- 5. Construct booby traps as required.
- 6. Clear fields of fire as required.
- 7. Place expedient explosive devices to support positions as required.
- 8. Mark fortifications/explosive devices as required.
- 9. Reconstitute force as required.
- 10. Submit required reports.

CHAINED EVENTS:

CEB-CMOB-3001 CEB-HEOP-3002

REFERENCES:

- 1. MCRP 3-17.2D Explosive Hazard Operations
- 2. MCRP 3-17.7L Explosives and Demolitions
- 3. MCRP 3-17A Engineering Field Data
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.6 Survivability

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
$\overline{\text{MO23}}$ Charge, Demolition Block M112 1-1/4	20 charges per squad
M032 Charge, Demolition Block TNT 1-Pound	20 charges per squad
M130 Cap, Blasting Electric M6	10 blasting caps per squad
M131 Cap, Blasting Non-Electric M7	20 blasting caps per squad
M456 Cord, Detonating PETN Type I Class E	2000 FT per squad
M591 Dynamite, Military M1	30 charges per squad
M670 Fuse, Blasting Time M700	500 FT per squad
ML03 Firing Device, Demolition Multi-Purp	10 detonators per squad
MN08 Igniter, Time Blasting Fuse with Sho	20 igniters per squad
MN52 MK154 Mod 0	10 detonators per squad

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: Engineer Material Handling equipment, Combat engineer Demolitions kit

UNITS/PERSONNEL: Range Safety Officer, Corpsman

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CEB-UTIL-4001: Provide tactical electrical power

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Plan and coordinate power generation/electrical distribution in accordance with the units mission statement.

CONDITION: With a Utilities plan, required equipment and personnel.

STANDARD: In accordance with the operational order and commanders intent.

EVENT COMPONENTS:

- 1. Plan tactical power requirements.
- 2. Coordinate logistical support/requirements.
- 3. Establish generator site(s).
- 4. Establish power distribution.
- 5. Maintain utilities equipment, as required.
- 6. Submit required reports.

CHAINED EVENTS:

CEB-HEOP-3001	CEB-MANT-3004	CEB-MANT-3005
CEB-MANT-3006	CEB-UTIL-3001	CEB-UTIL-3002
CEB-UTIL-3003	CEB-UTIL-3004	CEB-UTIL-3005
RELATED EVENTS:		
1169-ADMN-2002	1169-ADMN-2003	1169-ADMN-2021
1169-ADMN-2022	1169-XENG-2501	1169-XENG-2502
1169-XENG-2521	1169-XENG-2522	1169-XENG-2561
1169-XENG-2621	1169-XENG-2622	1169-XENG-2721
1169-XENG-2821	1169-XENG-2965	1169-XENG-2966

REFERENCES:

- 1. FM 5-424 Theater of Operations Electrical Systems
- 2. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 3. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety

SUPPORT REQUIREMENTS:

EQUIPMENT: Utilities equipment, Engineer Material Handling Equipment (MHE), Motor Transport equipment.

MATERIAL: POLs, HazMat Kits, spill containment kits, Fuel.

CEB-VERT-4001: Conduct vertical construction

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Conduct limited vertical construction to build or provide improvements to existing structures or construction of base camps, command posts and maintenance facilities for use by the GCE.

CONDITION: Given a mission, commander's intent, tactical situation, task organized equipment and personnel, design specifications, construction

materials and appropriate references.

STANDARD: To build and/or improve facilities that meet the minimum requirements listed in the design specifications in accordance with the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Plan vertical construction.
- 2. Conduct engineer reconnaissance.
- 3. Conduct survey as required.
- 4. Coordinate resources for project.
- 5. Conduct site preparation.
- 6. Repair facility as required.
- 7. Erect prefabricated structure, as required.
- 8. Construct wood frame structure, as required.
- 9. Construct timber structure, as required.
- 10. Construct expedient drainage structure, as required.
- 11. Wire structure for electricity as required.
- 12. Submit required reports.

CEB-HEOP-3001	CEB-HEOP-3002	CEB-HEOP-3002
CEB-RECN-3005	CEB-RECN-4005	CEB-UTIL-3003
CEB-UTIL-3004	CEB-VERT-4002	CEB-VERT-4003
CEB-VERT-4004		

RELATED EVENTS:		
1302-EOPS-1009	1302-HORZ-1002	1302-HORZ-1003
1302-RECN-1001	1302-VERT-1001	1361-DRAF-1001
1361-DRAF-1002	1361-DRAF-1003	1361-SRVY-1004
1361-SRVY-1008	1361-SRVY-2003	1361-SRVY-2004
1361-SRVY-2005	1371-EOPS-1004	1371-EOPS-2006
1371-EOPS-2007	1371-EOPS-2010	1371-EOPS-2011
1371-HORZ-2001	1371-HORZ-2002	1371-HORZ-2003
1371-RECN-1001	1371-RECN-2001	1371-VERT-1001
1371-VERT-1002	1371-VERT-1004	1371-VERT-1005
1371-VERT-2001	1371-VERT-2002	

REFERENCES:

- 1. GTA 5-7-13 Bridge Classification Booklet
- 2. GTA 5-7-6 Bridge Design Card
- 3. JP 3-15 Barriers, Obstacles, and Mine Warfare for Joint Operations
- 4. JP 3-34 Joint Engineer Operations
- 5. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Road Design
- 6. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Airfield and Heliport Design
- 7. MCRP 3-17.7C Carpentry
- 8. MCRP 3-17.7D Concrete and Masonry
- 9. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 10. MCRP 3-17.7F Project Management
- 11. MCRP 3-17.7I Earthmoving Operations
- 12. MCRP 3-17.7K Theater of Operations Electrical Systems
- 13. MCRP 3-17.7M Construction Estimating

- 14. MCRP 3-17.7N Base Camps
- 15. MCRP 3-17A Engineering Field Data
- 16. MCRP 4-11.1D Field Hygiene and Sanitation
- 17. MCWP 3-17 Engineering Operations
- 18. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 19. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 20. MCWP 4-11 Tactical-Level Logistics
- 21. TM 5-232 Elements of Construction Surveying

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Engineer earthmoving equipment, Combat engineer tools & kits, Material Handling Equipment.

CEB-VERT-4002: Construct wood frame structure

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Construct wood frame structures for use in all operations conducted to include but not limited to; strong backs, sheds, facilities, sea huts, etc. or may be specified in mission directives in support of the GCE.

<u>CONDITION</u>: Given a mission, commander's intent, tactical situation, task organized equipment and personnel, construction plans, design specifications, construction materials and references.

STANDARD: To meet the requirements listed in the design specifications in accordance with commander's intent.

EVENT COMPONENTS:

- 1. Review construction plans and schematics.
- 2. Review engineer reconnaissance and survey.
- 3. Acquire resources needed for project.
- 4. Conduct site preparation as required.
- 5. Operate/employ engineer equipment and kits.
- 6. Construct/install footers as required.
- 7. Construct/install flooring structure as required
- 8. Construct/install wall structure(s) as required.
- 9. Construct/install roof structure as required.
- 10. Construct/install doors as required.
- 11. Construct/install windows as required.
- 12. Finish interior as required.
- 13. Finish exterior as required.
- 14. Submit required reports.

PREREQUISITE EVENTS:

CEB-RECN-3005 CEB-RECN-4006

CHAINED EVENTS:

CEB-HEOP-3001 CEB-HEOP-3002

REFERENCES:

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7F Project Management
- 3. MCRP 3-17.7M Construction Estimating
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-17.7 General Engineering
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Engineer Material Handling equipment, Combat Engineer tools and kits.

CEB-VERT-4003: Construct timber structure

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Construct timber structures for survivability of personnel and equipment. Structures consist of but not limited to bunkers, shelters, overhead cover, guard posts, crew-serve weapons positions, and individual fighting positions.

CONDITION: Given a mission, commander's intent, tactical situations, task organized equipment and personnel, design specifications, construction materials and references.

STANDARD: To meet the survivability requirements and in accordance with the commander's intent.

- 1. Review construction plans and schematics.
- 2. Review engineer reconnaissance and survey.
- 3. Acquire resources needed for project.
- 4. Conduct site preparation as required.
- 5. Operate/employ engineer equipment and kits.
- 6. Construct/prefabricate structures as required.
- 7. Emplace structures as required.
- 8. Construct/install wall structure(s) as required.
- 9. Construct/install roof structure/components as required.
- 10. Construct/install doors as required.
- 11. Construct/install portholes as required.
- 12. Sandbag structure as required.
- 13. Camouflage as required.
- 14. Install grenade sumps as required.

15. Submit required reports.

PREREQUISITE EVENTS:

CEB-RECN-3005 CEB-RECN-4005

RELATED EVENTS:

1302-EOPS-1007	1302-EOPS-1009	1302-RECN-1001
1302-SURV-1001	1302-SURV-1002	1302-VERT-1001
1371-EOPS-1002	1371-EOPS-1003	1371-EOPS-1004
1371-EOPS-2006	1371-EOPS-2007	1371-EOPS-2008
1371-EOPS-2010	1371-EOPS-2011	1371-MANT-1001
1371-RECN-2001	1371-SURV-1001	1371-SURV-2001
1371-SURV-2002	1371-VERT-1001	1371-VERT-1002
1371-VERT-1004	1371-VERT-1005	

REFERENCES:

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7F Project Management
- 3. MCRP 3-17.7M Construction Estimating
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-17.7 General Engineering
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

 $ilde{ t EQUIPMENT}$: Engineer Material Handling equipment, Combat Engineer tools and Kits

CEB-VERT-4004: Provide limited repair of existing structures

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: NO **SUSTAINMENT INTERVAL:** 12 months

<u>DESCRIPTION</u>: Provide limited repair of facilities that have been damaged/flawed or incorrect per design specifications in support of the GCE.

CONDITION: Given a mission, commander's intent, tactical situation, task organized equipment and personnel, structure/facility in need of repair, construction materials and references.

STANDARD: To meet the original design requirements/specifications to restore structure or facilities and in accordance with the commander's intent.

- 1. Review construction plans and schematics as required.
- 2. Review engineer reconnaissance and survey as required.
- 3. Acquire resources needed for project.

- 4. Conduct site preparation as required.
- 5. Operate/employ engineer equipment and kits.
- 6. Repair/replace structural components as required.
- 7. Repair/replace electrical as required.
- 8. Repair bridge abutments as required.
- 9. Submit required reports.

CEB-RECN-3005 CEB-RECN-4005

CHAINED EVENTS:

CEB-HEOP-3001 CEB-UTIL-3004

RELATED EVENTS:

1302-EOPS-1009	1302-RECN-1001	1302-VERT-1001
1316-XENG-1001	1316-XENG-1006	1371-EOPS-2007
1371-EOPS-2010	1371-EOPS-2011	1371-RECN-1001
1371-VERT-1001	1371-VERT-1002	1371-VERT-1003
1371-VERT-1004	1371-VERT-1005	

REFERENCES:

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7F Project Management
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.6 Survivability
- 5. MCWP 3-33 Military Operations Other Than War (MOOTW)

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

 $extbf{EQUIPMENT}$: Engineer Material Handling equipment, Combat Engineer tools and kits

CEB-VERT-4005: Rig expedient lifting devices

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 3 months

DESCRIPTION: Rig expedient lifting devices for field expedient lifting of heavy objects and equipment with the use of organic equipment assets and fabricated supports (gin poles, tripods, shear poles, etc.). Rigging devices support the conduct of using pulleys for mechanical advantage to allow loads to be lifted, moved, and/or displaced to desired area.

CONDITION: Given a tactical situation, requirement to use rigging equipment, personnel, tools, and references.

STANDARD: To lift tools, equipment, or components of structures for accomplishment of tactical missions in accordance with the concept of operations.

EVENT COMPONENTS:

- 1. Review the mission.
- 2. Coordinate for logistical requirements.
- 3. Acquire necessary materials as required.
- 4. Compute safe working load as required.
- 5. Rig lifting system as required.
- 6. Erect lifting system as required.
- 7. Crib as required.
- 8. Install block(s) as required.
- 9. Install anchor systems as required.
- 10. Operate lifting system.

REFERENCES:

- 1. MCRP 3-17.7J Rigging Techniques, Procedures, and Applications
- 2. MCRP 3-17A Engineering Field Data
- 3. MCRP 3-17B Engineer Forms and Reports

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

4007. 3000-LEVEL EVENTS

CEB-CMOB-3001: Construct field expedient obstacles

SUPPORTED MCT(S): MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Construct field expedient obstacles tie into existing natural or other man made obstacles so enemy movement/maneuvers are fixed, turned, blocked or disrupted.

CONDITION: Given a tactical situation, type of obstacle required, obstacle intent, engineer tools and equipment, Class IV and V supplies, expedient obstacle material, personal protective equipment (PPE), and an area to construct the obstacle.

STANDARD: To tie into existing natural or other man made obstacles so enemy movement/maneuvers are fixed, turned, blocked or disrupted in accordance with the concept of operations.

EVENT COMPONENTS:

- 1. Prepare to construct field expedient obstacle(s).
- 2. Construct log obstacles if applicable.
- 3. Construct an abatis if applicable.
- 4. Construct improvised obstacles if applicable.
- 5. Improve, as necessary.

RELATED EVENTS:

1302-CMOB-1001 1302-CMOB-1003 1310-ADMN-2002

1310-ADMN-2004	1310-ADMN-2010	1310-HEOP-2001
1310-MANT-2002	1316-ADMN-2001	1316-ADMN-2002
1316-XENG-1001	1316-XENG-1006	1316-XENG-2002
1345-ADMN-1002	1345-ADMN-2002	1345-HEOP-1004
1345-HEOP-2012	1345-MANT-1001	1345-MANT-2001
1349-ADMN-2002	1349-ADMN-2004	1349-ADMN-2009
1349-ADMN-2010	1349-HEOP-2001	1349-MANT-2002
1371-CMOB-1002	1371-DEMO-1001	1371-EOPS-1002
1371-EOPS-1003		

REFERENCES:

- 1. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.4 Engineer Reconnaissance
- 8. MCWP 3-17.5 Combined Arms Countermobility Operations
- 9. MCWP 3-17.6 Survivability
- 10. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 11. MCWP 3-35.5 Jungle Operations
- 12. MCWP 3-35.6 Desert Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

Quantity
20 charges per Team
1 charges per Team
20 blasting caps per Team
20 blasting caps per Team
1 charges per Team
1 charges per Team
1000 FT per Team
10 charges per Team
500 FT per Team
1 charges per Team
20 igniters per Team

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat Engineer equipment, tools and kits, Earthmoving equipment, Demo kit.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CEB-CMOB-3002: Build non-explosive obstacles

SUPPORTED MCT(S): MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Build non-explosive obstacles to, block, fix, or disrupt the enemy. Typical examples are: Wire, Tank ditches, Log cribs, Steel H beam post obstacles, falling or tumble blocks, Dragon's teeth, hedgehogs, tetrahedrons and non-explosive abatis.

<u>CONDITION</u>: Given a mission, commander's intent, location to emplace the obstacle, task organized personnel and equipment, and resources (Class IV and V supplies, natural terrain, battlefield materials, etc.).

STANDARD: To, block, fix, or disrupt the enemy in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Review mission and schematics
- 2. Determine actual work sequence.
- 3. Coordinate logistical requirements.
- 4. Coordinate overwatch/ security for obstacle construction.
- 5. Move to obstacle site.
- 6. Tie obstacles into natural/existing obstacles as required.
- Construct/place mobility obstacles (barriers, hedgehogs, ect.) as required.
- 8. Construct wire obstacles as required.
- 9. Construct/place field expedient obstacles (logs, abatis, rubble, ect.) as required.
- 10. Construct/create deceptive obstacles as required.
- 11. Construct tank ditches as required.
- 12. Submit required reports.

RELATED EVENTS:

VETATED PARKID.		
1302-CMOB-1001	1302-CMOB-1002	1302-CMOB-1003
1310-ADMN-2010	1310-HEOP-2001	1310-MANT-2002
1316-ADMN-1002	1316-ADMN-2001	1316-ADMN-2002
1316-XENG-1001	1316-XENG-1006	1316-XENG-2002
1345-ADMN-1002	1345-ADMN-2002	1345-HEOP-1004
1345-HEOP-1007	1345-HEOP-2007	1345-HEOP-2012
1345-MANT-1001	1345-MANT-2001	1345-MANT-2003
1345-MANT-2004	1349-ADMN-2002	1349-ADMN-2004
1349-ADMN-2010	1349-HEOP-2001	1349-MANT-2002
1371-CMOB-1001	1371-CMOB-1002	1371-CMOB-2001
1371-CMOB-2001	1371-CMOB-2002	
1371-CMOB-2003		

REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCRP 3-17.7L Explosives and Demolitions

- 3. MCRP 3-17A Engineering Field Data
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 6. MCWP 3-1 Ground Combat Operations
- 7. MCWP 3-13.2 MINE WARFARE
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.5 Combined Arms Countermobility Operations
- 11. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Combat engineer equipment, tools and kits, MHE, Earthmoving equipment.

CEB-CMOB-3003: Employ explosive obstacles

SUPPORTED MCT(S): MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Create an explosive obstacle to turn, block, fix, or disrupt enemy movement or maneuver of personnel or equipment.

CONDITION: Given an operations order, personnel, demolitions material, engineer equipment, and personal protective equipment.

STANDARD: To turn, block, fix, or disrupt the enemy in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Prepare site.
- 3. Build the explosive obstacle.
- 4. Emplace explosive obstacle.
- 5. Recover as required.
- 6. Submit required reports.

RELATED EVENTS:

1302-CMOB-1001	1302-CMOB-1002	1310-ADMN-2002
1310-ADMN-2006	1310-ADMN-2009	1310-ADMN-2010
1310-HEOP-2001	1310-MANT-2002	1345-ADMN-1002
1345-ADMN-2002	1345-HEOP-1003	1345-HEOP-1004
1345-HEOP-1005	1345-HEOP-1006	1345-HEOP-2009
1349-ADMN-2002	1349-ADMN-2006	1349-ADMN-2009
1349-ADMN-2010	1349-HEOP-2001	1349-MANT-2002
1371-CMOB-1003	1371-CMOB-2001	1371-CMOB-2003
1371-DEMO-1002		

REFERENCES:

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCWP 3-13.2 MINE WARFARE
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
M032 Charge, Demolition Block TNT 1-Pound	20 charges per Team
M039 Charge, Demolition Cratering 40-Poun	1 charges per Team
M130 Cap, Blasting Electric M6	20 blasting caps per Team
M131 Cap, Blasting Non-Electric M7	10 blasting caps per Team
M420 Charge, Demolition Shaped M2 Series	1 charges per Team
M421 Charge, Demolition Shaped M3 Series	1 charges per Team
M456 Cord, Detonating PETN Type I Class E	1000 FT per Team
M591 Dynamite, Military M1	10 charges per Team
M670 Fuse, Blasting Time M700	500 FT per Team
M757 Charge, Assembly Demolition M183 Com	1 charges per Team
MN08 Igniter, Time Blasting Fuse with Sho	20 igniters per Team

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: PPE

UNITS/PERSONNEL: Range Safety officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CEB-DEMO-3001: Destroy captured arms and ammunition with demolitions

SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Destroy captured arms and ammunition with demolitions to ensure destruction. Examples include: confined gaseous, liquid, and solid propellants; explosives; pyrotechnics; chemical and riot-control agents; smokes and incendiaries (including bulk explosives); chemical warfare agents; chemical munitions; rockets; guided and ballistic missiles; bombs; warheads; mortar rounds; artillery ammunition; small arms ammunition; grenades; mines; torpedoes; depth charges; cluster munitions and dispensers; demolition charges; and devices and components of the above.

CONDITION: Given a tactical situation, demolition target, demolitions, task

organized personnel, demolition tools, equipment, and references.

STANDARD: To ensure destruction of target per commander's intent and mission requirements.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Coordinate with supporting unit (EOD) as required.
- 3. Prepare equipment as required.
- 4. Move to demolition site.
- 5. Prepare charge for demolition.
- 6. Set charge.
- 7. Established safety zone.
- 8. Detonate explosive.
- 9. Verify destruction of arms and ammunition.
- 10. Submit required reports.

RELATED EVENTS:

1302-DEMO-1001	1302-DEMO-1002	1302-DEMO-1003
1302-MOBL-1007	1371-DEMO-1001	1371-DEMO-2002
1371-DEMO-2002	1371-DEMO-2004	1371-DEMO-2005

REFERENCES:

- 1. GTA 5-10-33 Demolition Card
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
M028 Demolition Kit, Bangalore Torpedo M1	1 cases per Team
M032 Charge, Demolition Block TNT 1-Pound	3 charges per Team
M039 Charge, Demolition Cratering 40-Poun	3 charges per Team
M130 Cap, Blasting Electric M6	5 blasting caps per Team
M131 Cap, Blasting Non-Electric M7	5 blasting caps per Team
M420 Charge, Demolition Shaped M2 Series	1 charges per Team
M456 Cord, Detonating PETN Type I Class E	250 FT per Team
M591 Dynamite, Military M1	6 charges per Team
M670 Fuse, Blasting Time M700	150 FT per Team
M757 Charge, Assembly Demolition M183 Com	1 cases per Team
M982 Charge, Demolition Sheet 0.161 Inch	6 FT per Team
MM30 Charge, Flexible 20 Gram PETN MK140	4 charges per Team
MM44 Charge, Demolition Flexible Linear S	1 charges per Team
MM45 Charge, Demolition Flexible Linear S	1 charges per Team
MM47 Charge, Demolition Flexible Linear S	1 charges per Team
MM48 Charge, Demolition Flexible Linear S	1 charges per Team
MN08 Igniter, Time Blasting Fuse with Sho	15 igniters per Team

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: PPE

UNITS/PERSONNEL: Range Safety officer, Corpsman

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event

<u>CEB-DEMO-3002</u>: Destroy bridge with demolitions

SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Destroy bridge with demolitions which results in either a gap that exceeds the enemy's assault bridging capability by 5 meters, or that leaves demolished components which are unable to provide sufficient bearing capacity for enemy assault breaching assets.

CONDITION: Given a tactical situation, demolition target, demolitions, task organized personnel, demolition tools, equipment, and references.

STANDARD: To ensure destruction of target per commander's intent and mission requirements.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Coordinate with supporting unit (EOD) as required.
- 3. Prepare equipment as required.
- 4. Move to demolition site.
- 5. Prepare charge for demolition.
- 6. Set charge.
- 7. Established safety zone.
- 8. Detonate explosive.
- 9. Verify destruction of bridge.
- 10. Submit required reports.

RELATED EVENTS:

1302-DEMO-1001	1302-DEMO-1002	1302-MOBL-1007
1371-CMOB-2004	1371-DEMO-1001	1371-DEMO-2001
1371-DEMO-2002	1371-DEMO-2004	1371-DEMO-2005
1371-DEMO-2006	1371-DEMO-2015	

REFERENCES:

- 1. GTA 5-10-33 Demolition Card
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
M028 Demolition Kit, Bangalore Torpedo M1	1 cases per Team
M032 Charge, Demolition Block TNT 1-Pound	3 charges per Team
M039 Charge, Demolition Cratering 40-Poun	3 charges per Team
M130 Cap, Blasting Electric M6	5 blasting caps per Team
M131 Cap, Blasting Non-Electric M7	5 blasting caps per Team
M420 Charge, Demolition Shaped M2 Series	1 charges per Team
M456 Cord, Detonating PETN Type I Class E	250 FT per Team
M591 Dynamite, Military M1	6 charges per Team
M670 Fuse, Blasting Time M700	150 FT per Team
M757 Charge, Assembly Demolition M183 Com	1 cases per Team
M982 Charge, Demolition Sheet 0.161 Inch	6 FT per Team
MM30 Charge, Flexible 20 Gram PETN MK140	4 charges per Team
MM44 Charge, Demolition Flexible Linear S	1 charges per Team
MM45 Charge, Demolition Flexible Linear S	1 charges per Team
MM47 Charge, Demolition Flexible Linear S	1 charges per Team
MM48 Charge, Demolition Flexible Linear S	1 charges per Team
	i charges per ream

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: PPE

UNITS/PERSONNEL: Range Safety officer, Corpsman

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CEB-DEMO-3003: Destroy tunnel with demolitions

SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 12 months

DESCRIPTION: Destroy tunnel with demolitions to restrict the mobility of the enemy.

CONDITION: Given a tactical situation, demolition target, demolitions, task organized personnel, demolition tools, equipment, and references.

 $\underline{\mathtt{STANDARD}}\colon$ To ensure destruction of target per commander's intent and mission requirements.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Coordinate with supporting unit (EOD) as required.
- 3. Prepare equipment as required.
- 4. Move to demolition site.
- 5. Prepare charge for demolition.
- 6. Set charge.
- 7. Established safety zone.
- 8. Detonate explosive.
- 9. Verify destruction of tunnel.
- 10. Submit required reports.

RELATED EVENTS:

1302-DEMO-1001	1302-DEMO-1002	1302-DEMO-1003
1302-MOBL-1007	1371-DEMO-1001	1371-DEMO-2002
1371-DEMO-2002	1371-DEMO-2004	1371-DEMO-2005

REFERENCES:

- 1. GTA 5-10-33 Demolition Card
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
M028 Demolition Kit, Bangalore Torpedo M1	1 cases per Team
M032 Charge, Demolition Block TNT 1-Pound	3 charges per Team
M039 Charge, Demolition Cratering 40-Poun	3 charges per Team
M130 Cap, Blasting Electric M6	5 blasting caps per Team
M131 Cap, Blasting Non-Electric M7	5 blasting caps per Team
M420 Charge, Demolition Shaped M2 Series	1 charges per Team
M456 Cord, Detonating PETN Type I Class E	250 FT per Team
M591 Dynamite, Military M1	6 charges per Team
M670 Fuse, Blasting Time M700	150 FT per Team
M757 Charge, Assembly Demolition M183 Com	1 cases per Team
M982 Charge, Demolition Sheet 0.161 Inch	6 FT per Team
MM30 Charge, Flexible 20 Gram PETN MK140	4 charges per Team
MM44 Charge, Demolition Flexible Linear S	1 charges per Team
MM45 Charge, Demolition Flexible Linear S	1 charges per Team
MM47 Charge, Demolition Flexible Linear S	1 charges per Team
MM48 Charge, Demolition Flexible Linear S	1 charges per Team
MN08 Igniter, Time Blasting Fuse with Sho	15 igniters per Team

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: PPE

UNITS/PERSONNEL: Range Safety officer, Corpsman

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event

CEB-DEMO-3004: Destroy building with demolitions

SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Destroy building with demolitions to ensure destruction of the building.

CONDITION: Given a tactical situation, demolition target, demolitions, task organized personnel, demolition tools, equipment, and references.

STANDARD: To ensure destruction of target per commander's intent and mission requirements.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Coordinate with supporting unit (EOD) as required.
- 3. Prepare equipment as required.
- 4. Move to demolition site.
- 5. Prepare charge for demolition.
- 6. Set charge.
- 7. Established safety zone.
- 8. Detonate explosive.
- 9. Verify destruction of building.
- 10. Submit required reports.

RELATED EVENTS:

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1302-DEMO-1001	1302-DEMO-1002	1302-DEMO-1003
1302-MOBL-1007	1371-DEMO-1001	1371-DEMO-2001
1371-DEMO-2002	1371-DEMO-2004	1371-DEMO-2005
1371-DEMO-2006	1371-DEMO-2015	1371-RECN-2002

REFERENCES:

- 1. GTA 5-10-33 Demolition Card
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC Quantity

M028 Demolition Kit, Bangalore Torpedo M1 1 cases per Team M032 Charge, Demolition Block TNT 1-Pound 3 charges per Team M039 Charge, Demolition Cratering 40-Poun 3 charges per Team M130 Cap, Blasting Electric M6 5 blasting caps per Team M131 Cap, Blasting Non-Electric M7 5 blasting caps per Team M420 Charge, Demolition Shaped M2 Series 1 charges per Team M456 Cord, Detonating PETN Type I Class E 250 FT per Team M591 Dynamite, Military M1 6 charges per Team M670 Fuse, Blasting Time M700 150 FT per Team M757 Charge, Assembly Demolition M183 Com 1 cases per Team M982 Charge, Demolition Sheet 0.161 Inch 6 FT per Team MM30 Charge, Flexible 20 Gram PETN MK140 4 charges per Team MM44 Charge, Demolition Flexible Linear S 1 charges per Team MM45 Charge, Demolition Flexible Linear S 1 charges per Team MM47 Charge, Demolition Flexible Linear S 1 charges per Team MM48 Charge, Demolition Flexible Linear S 1 charges per Team MN08 Igniter, Time Blasting Fuse with Sho 15 igniters per Team

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: 260 CFM, PPE.

UNITS/PERSONNEL: Range Safety officer, Corpsman

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event

CEB-HEOP-3001: Provide Material Handling Equipment (MHE) support

SUPPORTED MCT(S):

MCT 1.12.1 MCT 1.4.1 MCT 1.4.2

MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Provide limited Material Handling Equipment (MHE) support to the GCE utilizing the required type(s) of engineer equipment and personnel.

CONDITION: Given an operations order, personnel, and engineer equipment.

STANDARD: To support mission requirements.

- 1. Coordinate with supported unit.
- 2. Prepare equipment for operation.
- 3. Move to site.
- 4. Establish safety zone.
- 5. Deploy safety measures for equipment.
- 6. Conduct lift of material.

- 7. Displace equipment as required.
- 8. Submit required reports.

RELATED EVENTS:

1120-ADMN-2002	1120-ADMN-2006	1310-ADMN-2009
1310-HEOP-2001	1310-HORZ-2002	1310-HORZ-2003
1310-MANT-2002	1316-MANT-1004	1345-ADMN-2002
1345-HEOP-1001	1345-HEOP-1002	1345-HEOP-1003
1345-HORZ-2001	1345-MANT-1001	1349-HEOP-2001
1349-HORZ-2002	1349-HORZ-2003	1349-MANT-2002

REFERENCES:

- 1. Local Standard Operating Procedures (SOP)
- 2. Applicable technical references

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces

CEB-HEOP-3002: Provide earth moving equipment support

SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2 MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Provide limited earth moving equipment support to support the mission utilizing the required type(s) of engineer equipment and personnel.

CONDITION: Given an operations order, personnel, and engineer equipment.

STANDARD: To support mission requirements.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Prepare equipment for operation.
- 3. Move to site.
- 4. Establish safety zone.
- 5. Deploy safety measures for equipment.
- 6. Conduct combined earthmoving operations.
- 7. Displace equipment as required.
- 8. Submit required reports.

RELATED EVENTS:

1310-ADMN-2002	1310-ADMN-2006	1310-ADMN-2009
1310-ADMN-2010	1310-HEOP-2001	1310-HORZ-2002
1310-HORZ-2003	1310-MANT-2002	1310-XENG-2001
1310-XENG-2002	1310-XENG-2003	1310-XENG-2004
1345-ADMN-1002	1345-HEOP-1003	1345-HEOP-1004
1345-HEOP-1006	1345-HEOP-1007	1345-HEOP-2006
1345-HEOP-2007	1345-HEOP-2009	1345-HORZ-2001

1345-HORZ-2001	1345-MANT-1001	1345-MANT-2001
1345-MANT-2003	1345-MANT-2004	1349-HEOP-2001
1349-HORZ-2002	1349-HORZ-2003	

REFERENCES:

- 1. Local Standard Operating Procedures (SOP)
- 2. Applicable technical references

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces

CEB-MANT-3001: Maintain engineer equipment

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Maintain engineer equipment by conducting preventive and corrective maintenance on engineer equipment using unit assigned maintenance levels.

CONDITION: With equipment, tools, repair parts, supplies, personnel and references.

<u>STANDARD</u>: To sustain equipment in an operational status at or above unit's readiness requirements.

EVENT COMPONENTS:

- 1. Monitor equipment readiness.
- 2. Conduct reconciliation.
- 3. Assign tasks.
- 4. Maintain organic tactical engineer equipment.
- 5. Manage maintenance programs.
- 6. Submit required reports.

RELATED EVENTS:

1310-ADMN-2004	1310-ADMN-2005
1310-MANT-2001	1316-ADMN-1001
1316-ADMN-1003	1316-ADMN-2001
1316-MANT-1002	1316-MANT-1004
1316-XENG-1006	1341-ADMN-1001
1341-ADMN-2001	1341-ADMN-2002
1341-ADMN-2004	1341-ADMN-2005
1341-ADMN-2007	1341-ADMN-2008
1341-MANT-1002	1341-MANT-2001
1341-MANT-2003	1341-MANT-2004
1341-MANT-2006	1341-MANT-2007
1341-MANT-2009	1341-MANT-2010
1341-MANT-2012	1341-MANT-2013
1345-MANT-1001	1345-MANT-2001
1349-ADMN-2001	1349-ADMN-2002
	1310-MANT-2001 1316-ADMN-1003 1316-MANT-1002 1316-XENG-1006 1341-ADMN-2001 1341-ADMN-2004 1341-ADMN-2007 1341-MANT-1002 1341-MANT-2003 1341-MANT-2006 1341-MANT-2009 1341-MANT-2012 1345-MANT-1001

1349-ADMN-2003	1349-ADMN-2004	1349-ADMN-2008
1349-MANT-2001	1349-MANT-2002	1371-MANT-1001

1371-MANT-2002

REFERENCES:

- 1. SOP Unit/Local Standard Operating Procedures
- 2. DoDI 6055.1 DoD Safety and Occupational Health (SOH) Program
- 3. EMC Electric Motor Controls by American Technical Publishers, Inc.
- 4. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 5. MCO 4733.1_ Marine Corps Test, Measurement, and Diagnostics Equipment (TMDE) Calibration and Maintenance Program (CAMP)
- 6. MCO 4790.18_ Corrosion Prevention and Control (CPAC) Program
- 7. MCO 5100.29_ Marine Corps Safety Program
- 8. MCO P4790.2_ MIMMS Field Procedures Manual

SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer tools, sets, kits.

CEB-MANT-3002: Perform operator/crew level maintenance on ABV

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Clean, lubricate and paint ABV in accordance with the cleaning guidelines and procedures within the TM 10984A-OR/1-1. Both 1372's and 2146's perform this task.

CONDITION: Given an ABV, SL-3 equipment, tools, and technical manuals.

STANDARD: Ensuring equipment is checked and serviced per the maintenance schedule, and deficiencies are identified/corrected.

EVENT COMPONENTS:

- 1. Conduct lamp replacement.
- 2. Conduct periscopes and lens maintenance.
- 3. Conduct preparation for maintenance on covers and doors.
- 4. Conduct precleaner maintenance and fueling.
- 5. Conduct hydraulic maintenance.
- 6. Conduct battery maintenance.
- 7. Conduct track maintenance.
- 8. Conduct drain valve maintenance.
- 9. Conduct powerpack and electronics maintenance.
- 10. Conduct NBC, and auxiliary equipment maintenance.
- 11. Conduct LDCS maintenance.
- 12. Conduct LMS maintenance.

RELATED EVENTS:

1372-MANT-1001	1372-MANT-1002	1372-MANT-1003
1372-MANT-1004	1372-MANT-1005	1372-MANT-1006
1372-MANT-1007		

REFERENCES:

- 1. TM 10984A-OI/3-1 Field Maintenance Manual (ABV), Volume 1
- 2. TM 10984A-OR/1-1 Operators Manual, (ABV) Volume 1
- 3. TM 10984A-OR/1-2 Operators Manual, (ABV) Volume 2
- 4. TM 5-5420-203-14 Operator's Manual for AVLB

SUPPORT REQUIREMENTS:

EQUIPMENT: Wash rack with the necessary tools and equipment, PPE

CEB-MANT-3003: Perform operator/crew level maintenance on AVLB

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Clean, lubricate and paint AVLB in accordance with the cleaning guidelines and procedures within the TM 5-5420-202-10. Both 1372's and 2146's perform this task

CONDITION: Given an ALVB, SL-3 equipment, tools, and technical manuals.

STANDARD: Ensuring equipment is checked and serviced per the maintenance schedule, and deficiencies are identified/corrected.

EVENT COMPONENTS:

- 1. Conduct track maintenance.
- 2. Conduct rear fender removal and installation.
- 3. Conduct refueling from pressurized source.
- 4. Conduct fuel filler cap maintenance.
- 5. Conduct battery maintenance.
- 6. Conduct escape hatch removal and installation.
- 7. Conduct lamp replacement.
- 8. Conduct engine air cleaner indicator maintenance.
- 9. Conduct smoke grenade launcher maintenance.
- 10. Conduct maintenance under adverse conditions.
- 11. Conduct lubrication on AVLB per lubrication instructions.

RELATED EVENTS:

1372-MANT-1001	1372-MANT-1002	1372-MANT-1003
1372-MANT-1004	1372-MANT-1005	1372-MANT-1006
1372-MANT-1007		

REFERENCES:

1. TM 5-5420-202-10 Operator's Manual for M-60 AVLB

SUPPORT REQUIREMENTS:

EQUIPMENT: Wash rack with the necessary tools and equipment, PPE

<u>CEB-MANT-3004</u>: Maintain tactical power distribution system

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Maintain equipment to ensure the safe distribution of electrical power to meet mission requirements and commanders intent.

<u>CONDITION</u>: With a Preventive Maintenance Checks and Service (PMCS) Schedule, testing equipment, tools, and personnel.

STANDARD: To ensure the equipment is safe and operational.

EVENT COMPONENTS:

- 1. Review PMCS schedule, as required.
- 2. Induct equipment into maintenance cycle.
- 3. Conduct preventive maintenance, as required.
- 4. Conduct corrective maintenance, as required.
- 5. Complete modifications, as required.
- 6. Ground system, as required.
- 7. Electrically energize system, as required.
- 8. Diagnose malfunction, as required.
- 9. Requisition repair parts, as required.
- 10. Install repair parts, as required.
- 11. Test system.
- 12. Complete quality control requirements.
- 13. Complete administrative maintenance requirements.

RELATED EVENTS:

KELAILD EVERID.		
1141-ADMN-1002	1141-ADMN-1006	1141-ADMN-1008
1141-ADMN-1010	1141-ADMN-1011	1141-ADMN-2073
1141-MANT-1101	1141-MANT-1224	1141-MANT-1324
1141-MANT-1424	1141-MANT-2191	1141-MANT-2244
1141-MANT-2344	1141-MANT-2444	1141-XENG-1601
1141-XENG-1703	1142-ADMN-1006	1142-ADMN-1008
1142-ADMN-1010	1142-ADMN-1011	1142-ADMN-2073
1142-MANT-1101	1142-MANT-1106	1142-MANT-1108
1142-MANT-1109	1142-MANT-1142	1142-MANT-1351
1142-MANT-1451	1142-MANT-1466	1142-MANT-1467
1142-MANT-1468	1142-MANT-1469	1142-MANT-1493
1142-MANT-2191	1142-MANT-2308	1142-MANT-2309
1142-MANT-2318	1142-MANT-2354	1142-MANT-2365
1142-MANT-2408	1142-MANT-2409	

REFERENCES:

- 1. MCO P4790.2_ MIMMS Field Procedures Manual
- 2. MCRP 3-17.7K Theater of Operations Electrical Systems
- 3. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 4. TM 4700-15/1 Ground Equipment Record Procedures
- 5. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light

Forces

EQUIPMENT: Multi-meter, tools, power generation equipment, PPE. **MISCELLANEOUS:**

<u>ADMINISTRATIVE INSTRUCTIONS</u>: This task includes conducting maintenance on generators, MEPDIS and MEPDIS-R.

CEB-MANT-3005: Maintain Environmental Control Units (ECU)

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: As a CEB unit (fire team) in support of the GCE, conduct maintenance in order to sustain the ECU(s) in operable status.

CONDITION: With equipment, tools, repair parts, supplies, personnel and references.

STANDARD: To sustain equipment in an operational status at or above units readiness requirements.

EVENT COMPONENTS:

- 1. Conduct operational checks and services.
- 2. Conduct Limited Technical Inspection (LTI).
- 3. Open service request (GCSS-MC).
- 4. Order Repair Parts.
- 5. Install Repair Parts.
- 6. Complete Modifications as required.
- 7. Perform Operational Checks.
- 8. Complete quality control requirements.
- 9. Return administrative maintenance requirements.

RELATED EVENTS:

RELATED EVENTS:		
1142-ADMN-1006	1142-ADMN-1008	1142-ADMN-1010
1142-ADMN-1011	1142-ADMN-2073	1142-MANT-1101
1142-MANT-1106	1142-MANT-1108	1142-MANT-1109
1142-MANT-2191	1142-MANT-2311	1161-ADMN-1006
1161-ADMN-1008	1161-ADMN-1010	1161-ADMN-1011
1161-ADMN-2015	1161-ADMN-2016	1161-ADMN-2073
1161-MANT-1101	1161-MANT-1102	1161-MANT-1103
1161-MANT-1104	1161-MANT-1106	1161-MANT-1107
1161-MANT-1108	1161-MANT-1109	1161-MANT-1211
1161-MANT-1218	1161-MANT-1311	1161-MANT-1318
1161-MANT-1401	1161-MANT-1403	1161-MANT-2191

REFERENCES:

- 1. 40 CFR 82 Chapter 40, Code of Federal Regulations, Part Number 82 (Protection of Stratospheric Ozone)
- 2. 42 USC 85 VI 7671 Title 42, United States Code, Chapter 85, Subchapter VI, Section 7671 (Ozone Protection)
- 3. MCO 5090.1 Chlorofluorocarbons (CFC's) and Halons

- 4. MCWP 4-11.4 Maintenance Operations
- 5. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Engineer Material Handling equipment, Utilities equipment, tools and kits

CEB-MANT-3006: Maintain refrigeration system(s)

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: As a CEB unit (fire team) in support of the GCE, conduct maintenance in order to sustain the refrigeration system(s) in operable status.

CONDITION: With equipment, tools, repair parts, supplies, personnel and references.

STANDARD: To sustain equipment in an operational status at or above units readiness requirements.

EVENT COMPONENTS:

- 1. Conduct operational checks and services.
- 2. Conduct Limited Technical Inspection (LTI).
- 3. Open service request (GCSS-MC).
- 4. Order Repair Parts.
- 5. Install Repair Parts.
- 6. Complete Modifications as required.
- 7. Perform Operational Checks.
- 8. Complete quality control requirements.
- 9. Complete maintenance administrative requirements.

RELATED EVENTS:

RELATED EVENTS:		
1142-ADMN-1006	1142-ADMN-1008	1142-ADMN-1010
1142-ADMN-1011	1142-ADMN-2073	1142-MANT-1101
1142-MANT-1106	1142-MANT-1108	1142-MANT-1109
1142-MANT-1392	1142-MANT-1493	1142-MANT-2191
1142-MANT-2327	1161-ADMN-1006	1161-ADMN-1008
1161-ADMN-1010	1161-ADMN-1011	1161-ADMN-2073
1161-MANT-1101	1161-MANT-1102	1161-MANT-1103
1161-MANT-1104	1161-MANT-1106	1161-MANT-1107
1161-MANT-1108	1161-MANT-1109	1161-MANT-1235
1161-MANT-1335	1161-MANT-1402	1161-MANT-1404
1161-MANT-2191		

REFERENCES:

1. 40 CFR 82 Chapter 40, Code of Federal Regulations, Part Number 82

- (Protection of Stratospheric Ozone)
- 2. 42 USC 85 VI 7671 Title 42, United States Code, Chapter 85, Subchapter VI, Section 7671 (Ozone Protection)
- 3. MCO 5090.1 Chlorofluorocarbons (CFC's) and Halons
- 4. MCWP 4-11.4 Maintenance Operations
- 5. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Engineer Material Handling Equipment, power generation equipment, tools and kits.

CEB-MOBL-3001: Engage targets with MK153 SMAW

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Engage targets with MK153 SMAW to destroy bunkers and other fortifications during assault operations as well as other designated targets.

CONDITION: Given a tactical scenario which presents a series of realistic threats, at ranges 150 to 250 meters, wearing a fighting load, operating as an assault team (gunner and assistant gunner) in support of a maneuvering unit, firing from all positions, during day or night operations.

STANDARD: Attain hits on designated/ appropriate targets from suitable tactical positions using spotting rounds and appropriate rockets, maximizing the use of cover to load and engage targets, or suppressing fire/ concealment, when cover is not available, in accordance with commander's intent and the target attack guidance matrix.

EVENT COMPONENTS:

- 1. Load the SMAW.
- 2. Select a firing position.
- 3. Acquire the target in the sight.
- 4. Determine range to target.
- 5. Set the estimated range on the sight range selector drum (telescopic sight).
- 6. Place the SMAW in Condition 1.
- 7. Fire a spotting round and observe impact.
- 8. Make necessary adjustments until spotting rounds impact target or until the six (6) spotting rounds are expended.
- 9. Fire the SMAW.
- 10. Take immediate action if misfire occurs with either spotting rifle or launcher.
- 11. Move to alternate/supplemental position.

PREREQUISITE EVENTS: 1371-MOBL-1006

RELATED EVENTS:

1302-MOBL-1005 1371-MOBL-1003 1371-MOBL-1005

1371-MOBL-2012 1371-MOBL-2017

REFERENCES:

 $\overline{1}$. TM 08673A-10/1 Launcher, Assault Rocket 83MM (SMAW) MK 153 MOD 0

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC
AX11- Cartridge, 9mm Spotting Rifle MK217

HX05 Rocket, 83mm Assault MK3 Mod 0 (SMAW 2 rocket per Team HX07 Rocket, 83mm HEAA Practice MK7 Mod 0 4 rocket per Team

RANGE/TRAINING AREA: Facility Code 17710 Multipurpose Training Range (MPTR)

EQUIPMENT: MK 153 SMAW, SMAW Cartridge Pack, SMAW Simulator Cartridge.

UNITS/PERSONNEL: Range OIC, Range Safety Officer (RSO), Corpsman.

OTHER SUPPORT REQUIREMENTS: Communications (radio).

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: This task should be trained on the ISMT before expending live rounds. This task can be accomplished using training rounds. This task can be sustained through ISMT. Quantities of munition, explosives and pyrotechnics are sufficient to conduct one training evolution per (9) weapons in one Company. Final amounts should be adjusted to reflect sustainment intervals for this event.

<u>CEB-MOBL-3002</u>: Breach obstacle with the Assault Breacher Vehicle (ABV)

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Breach obstacle with the Assault Breacher Vehicle (ABV) to mechanically/explosively breach, proof, and mark lanes in support of GCE mobility requirements.

<u>CONDITION</u>: As part of an obstacle clearance detachment or breach force, given a tactical situation, an order, breaching assets, commander's decision and references.

STANDARD: To create a breached lane in accordance with the commander's intent and concept of operations.

EVENT COMPONENTS:

1. Receive the mission.

- 2. Review obstacle intelligence reports.
- 3. Configure ABV(s) for obstacle breach as required
- 4. Conduct battle drills (team) to rehearse the breach of an obstacle.
- 5. Move to breach point.
- 6. Employ front-end equipment to breach lane as required.
- 7. Employ front-end equipment to proof lane as required
- 8. Employ line charge(s) to reduce obstacle as required.
- 9. Employ lane marking system as required.
- 10. Coordinate with OCD for additional lane reduction as required.
- 11. Recover as required.
- 12. Submit required reports.

RELATED EVENTS:

1302-MOBL-1005	1371-MOBL-1003	1371-MOBL-2012
1371-MOBL-2017	1372-ADMN-1003	1372-DEMO-1001
1372-DEMO-1002	1372-MOBL-1001	1372-MOBL-1002
1372-MOBL-1005	1372-MOBL-1006	1372-MOBL-1007
1372-MOBL-1009	1372-MOBL-1010	1372-MOBL-1011
1372-MOBL-1012		

REFERENCES:

- 1. MCRP 3-17A Engineering Field Data
- 2. MCRP 3-17B Engineer Forms and Reports
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.3 MAGTF Breaching Operations
- 5. MCWP 3-17.8 Combined Arms Mobility Operations
- 6. TM 10984A-OI/3-1 Field Maintenance Manual (ABV), Volume 1
- 7. TM 10984A-OR/1-1 Operators Manual, (ABV) Volume 1
- 8. TM 10984A-OR/1-2 Operators Manual, (ABV) Volume 2

SUPPORT REQUIREMENTS:

ORDNANCE:

<u>Quantity</u>
20 cartridges per Team
4 rocket per Team
2 charges per Team
2 charges per Team

RANGE/TRAINING AREA:

Facility Code 17420 Maneuver/Training Area, Heavy Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer breaching equipment

UNITS/PERSONNEL: Range safety officer, corpsman

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CEB-MOBL-3003: Conduct an urban breach

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct an urban breach to physically, ballistically, or explosively breach structures in support of GCE mobility requirements.

CONDITION: Given a mission, commander's intent, task organized personnel that are trained and equipped for urban breaching, and references.

STANDARD: To gain entry into a structure or compound to provide sufficient mobility to support the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Reconnoiter target, situation permitting.
- 3. Issue Breacher's brief.
- 4. Construct the charge(s) as required.
- 5. Verify obscuration, concealment as required.
- 6. Move to breach site.
- 7. Place charge(s) as required.
- 8. Detonate charge(s) as required.
- 9. Conduct ballistic breach as required.
- 10. Conduct mechanical breach as required.
- 11. Conduct manual (follow-on) breach as required.
- 12. Reconstitute for successive breaches as required.

RELATED EVENTS:

1302-DEMO-1002	1302-DEMO-1003	1302-MOBL-1006
1302-MOBL-1007	1371-DEMO-2001	1371-DEMO-2002
1371-DEMO-2003	1371-DEMO-2004	1371-DEMO-2005
1371-DEMO-2006	1371-DEMO-2007	1371-DEMO-2008
1371-DEMO-2009	1371-DEMO-2010	1371-DEMO-2011
1371-DEMO-2012	1371-DEMO-2013	1371-DEMO-2014
1371-MOBL-2013	1371-MOBL-2014	1371-MOBL-2016
1371-MOBL-2019		

REFERENCES:

- 1. Guidebook for Assault Entry Techniques
- 2. Urban Mobility Engineer Guidebook
- 3. 590 MILS M590 Shotgun Owner's Manual
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.3 MAGTF Breaching Operations
- 7. MCWP 3-17.4 Engineer Reconnaissance
- 8. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 9. SWO 60-AA-MMA-010 Demolition Materials

ORDNANCE:

DODIC Quantity A011 Cartridge, 12 Gauge #00 Buckshot M16 10 cartridges per Team A023 Cartridge, 12 Gauge 1 Ounce Slug Com 10 cartridges per Team A024 Cartridge, 12 Gauge Door Breaching M 10 cartridges per Team M130 Cap, Blasting Electric M6 20 blasting caps per Team M456 Cord, Detonating PETN Type I Class E 1000 FT per Team M670 Fuse, Blasting Time M700 500 FT per Team M757 Charge, Assembly Demolition M183 Com 1 charges per Team M982 Charge, Demolition Sheet 0.161 Inch 1 Roll per Team MM47 Charge, Demolition Flexible Linear S 5 FT per Team MM56 Detonator, Non-Electric MK123 Mod 0 10 detonators per Team MN08 Igniter, Time Blasting Fuse with Sho 40 igniters per Team MN14 Firing Device, Dual Mode MK54 2 primers per Team

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer urban breaching equipment, PPE.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this Event.

CEB-MOBL-3004: Create a lane through an obstacle

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 12 months

<u>DESCRIPTION</u>: Create a lane through an obstacle that provides safe passage of a passing force. The route may be reduced and proofed as part of a breaching operation, be constructed as part of the obstacle, or be marked as a bypass.

CONDITION: Given a tactical situation, an order, breaching assets, location of lane to be created, current obstacle intelligence, and references.

STANDARD: To assure mobility in accordance with the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Receive the mission.
- 2. Acquire explosive/non-explosive breaching assets.
- 3. Conduct battle drills (team) to rehearse the breach of an obstacle.

- 4. Move to breach site.
- 5. Execute the breach.
- 6. Proof lane.
- 7. Mark lane.
- 8. Submit required reports.

RELATED EVENTS:

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1302-CMOB-1001	1302-CMOB-1002	1302-CMOB-1003
1302-CMOB-1003	1302-DEMO-1001	1302-DEMO-1002
1302-MOBL-1004	1302-MOBL-1005	1302-MOBL-1008
1302-MOBL-1009	1302-MOBL-1010	1310-ADMN-2009
1310-ADMN-2010	1310-HEOP-2001	1310-MANT-2002
1345-HEOP-1004	1345-HEOP-1006	1345-MANT-1001
1349-ADMN-2009	1349-ADMN-2010	1349-HEOP-2001
1349-MANT-2002	1371-CMOB-1003	1371-CMOB-2001
1371-DEMO-1001	1371-DEMO-2002	1371-DEMO-2003
1371-DEMO-2004	1371-DEMO-2005	1371-MOBL-1001
1371-MOBL-1002	1371-MOBL-1003	1371-MOBL-1003
1371-MOBL-2012	1371-MOBL-2017	1371-MOBL-2019
1371-MOBL-2020	1371-MOBL-2022	1371-MOBL-2023
1371-MOBL-2035		

REFERENCES:

- 1. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 2. MCWP 3-1 Ground Combat Operations
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.3 MAGTF Breaching Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
J143 Rocket Motor, 5-inch MK22 Mod 4	3 rockets per Team
M028 Demolition Kit, Bangalore Torpedo M1	1 charges per Team
M032 Charge, Demolition Block TNT 1-Pound	20 charges per Team
M130 Cap, Blasting Electric M6	60 blasting caps per Team
M456 Cord, Detonating PETN Type I Class E	1500 FT per Team
M670 Fuse, Blasting Time M700	500 FT per Team
M757 Charge, Assembly Demolition M183 Com	2 charges per Team
M913 Charge, Demolition High Explosive Li	1 charges per Team
M914 Charge, Demolition Inert Linear M68A	2 charges per Team
MN08 Igniter, Time Blasting Fuse with Sho	100 igniters per Team
MN79 Mine, Antipersonnel Obstacle Breachi	1 mines per Team
MN88 Cap, Blasting, 500 ft mini-tube M21	5 blasting caps per Team
MN90 Cap, Blasting, 1000 ft mini-tube M23	10 blasting caps per Team

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer breaching assets, Demo kit, PPE.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CEB-MOBL-3005: Proof a lane through an obstacle

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Proof a lane through an obstacle to verify that a lane is free of explosive hazards and that the width and trafficability of the point of breach are suitable for the assault force. Proofing can be conducted visually (against surface-laid minefields), electronically (mine detectors), or mechanically (mine clearing rollers [MCRs]). Proofing is conducted when the risk of live mines remaining in the lane exceeds the risk of loss (lives and equipment) to enemy fires while waiting to complete proofing.

CONDITION: Given a breached lane, task organized equipment and personnel, and references.

STANDARD: To verify that a lane is free of all remnants of explosive and non-explosive obstacles and to allow for rapid passage of assault force in accordance with the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Receive the mission.
- 2. Conduct mechanical proof of breached lane as required.
- 3. Conduct manual proof of breached lane as required.
- 4. Submit required reports.

RELATED EVENTS:

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1302-DEMO-1001	1302-DEMO-1002	1302-MOBL-1004
1302-MOBL-1005	1302-MOBL-1009	1302-MOBL-1010
1371-DEMO-1001	1371-DEMO-2002	1371-DEMO-2003
1371-DEMO-2004	1371-DEMO-2005	1371-MOBL-1001
1371-MOBL-1002	1371-MOBL-1003	1371-MOBL-2012
1371-MOBL-2017	1371-MOBL-2019	1371-MOBL-2020
1371-MOBL-2022	1371-MOBL-2023	1371-MOBL-2035

REFERENCES:

- 1. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 2. MCWP 3-1 Ground Combat Operations
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.4 Engineer Reconnaissance
- 5. MCWP 3-17.8 Combined Arms Mobility Operations

ORDNANCE:

DODIC

M032 Charge, Demolition Block TNT 1-Pound

M130 Cap, Blasting Electric M6

M456 Cord, Detonating PETN Type I Class E

M670 Fuse, Blasting Time M700

M757 Charge, Assembly Demolition M183 Com

MN08 Igniter, Time Blasting Fuse with Sho

MN88 Cap, Blasting, 500 ft mini-tube M21

MN90 Cap, Blasting, 1000 ft mini-tube M23

Quantity

20 charges per Team

500 FT per Team

2 charges per Team

100 igniters per Team

10 igniters per Team

10 igniters per Team

10 igniters per Team

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat Engineer breaching assets, mine detectors, Demo kit.

UNITS/PERSONNEL: Range Safety officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

<u>CEB-MOBL-3006</u>: Mark a lane through an obstacle

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Mark a lane through an obstacle to identify a breached lane for rapid passage of the force.

CONDITION: Given a proofed lane, task organized equipment and personnel, and references.

STANDARD: To identify a breached lane for rapid passage of assault force in accordance with the commander's intent and the concept of operations.

EVENT COMPONENTS:

- 1. Receive the mission.
- 2. Mark the breached lane.
- 3. Submit required reports.

RELATED EVENTS:

1302-MOBL-1005 1371-MOBL-1003 1371-MOBL-2012

1371-MOBL-2017

REFERENCES:

- 1. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 2. MCWP 3-1 Ground Combat Operations
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.3 MAGTF Breaching Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: HEMMS kit and mine field marking kit.

UNITS/PERSONNEL: Range Safety Officer, Corpsman

CEB-MOBL-3007: Remotely detect explosive hazards

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: NO **SUSTAINMENT INTERVAL:** 12 months

<u>DESCRIPTION</u>: Remotely detect explosive hazards using engineer robotics systems to detect explosive hazards, positively identify and mark explosive hazards within engineer scope/capabilities.

CONDITION: Given a tactical situation, robot, an order, combat engineer equipment, field protective equipment, a suspected explosive hazard, commander's decision and references.

STANDARD: To positively identify and mark the explosive hazard in accordance with the concept of operations and the commander's intent.

EVENT COMPONENTS:

- 1. Re-deploy to safe standoff distance.
- 2. Set security.
- 3. Evaluate micro-terrain.
- 4. Robot team prepare robot for operation.
- 5. Operate the robot.
- 6. Conduct robotic reconnaissance.
- 7. Mark explosive hazard as required.
- 8. Submit report as required.

RELATED EVENTS:

1302-MOBL-1008 1302-MOBL-1009 1371-MOBL-2035

REFERENCES:

1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations

- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCWP 3-17.8 Combined Arms Mobility Operations

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer robot.

CEB-MOBL-3008: Remotely reduce explosive hazards

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Remotely reduce explosive hazards using engineer robotics systems to reduce/destroy explosive hazards after positive identification of explosive hazard has been established and with engineer scope/capabilities.

CONDITION: Given a tactical situation, robot, a positively identified explosive hazard, an order, combat engineer equipment, Class V, field protective equipment, commander's decision and references.

STANDARD: By calculating, placing and detonating an explosive charge that will result in the reduction of the explosive hazard and allow for assured mobility.

EVENT COMPONENTS:

- 1. Evaluate go/no go criteria per the explosive hazard decision matrix.
- 2. Employ protective measures.
- 3. Build a charge.
- 4. Prepare robot for operation.
- 5. Remotely place the charge.
- 6. Detonate the charge.
- 7. Remotely verify destruction of explosive hazard.
- 8. Submit report as required.

RELATED EVENTS:

1302-DEMO-1002	1302-DEMO-1004	1302-MOBL-1004
1302-MOBL-1008	1302-MOBL-1009	1371-MOBL-2020
1371-MOBL-2023	1371-MOBL-2035	

REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC
M670 Fuse, Blasting Time M700Quantity
250 FT per Team

M757 Charge, Assembly Demolition M183 Com 1 charges per Team

MN08 Igniter, Time Blasting Fuse with Sho 5 igniters per Team

MN52 MK154 Mod 0 6 detonators per Team

MN88 Cap, Blasting, 500 ft mini-tube M21 5 blasting caps per Team MN90 Cap, Blasting, 1000 ft mini-tube M23 10 blasting caps per Team

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer robot.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

<u>CEB-MOBL-3009</u>: Employ a medium machinegun team

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 3 months

<u>DESCRIPTION</u>: Employ a medium machinegun team in a mounted or dismounted position.

CONDITION: Given an operations order, a medium machinegun team, mounted, sectors of fire, targets, FPF, and while wearing fighting loads.

<u>STANDARD</u>: To support the scheme of maneuver in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Emplace/mount the weapon.
- 3. Engage targets.
- 4. Control fires as directed.
- 5. Displace according to scheme of maneuver.
- 6. Prepare for follow-on missions.

REFERENCES:

- 1. MCWP 3-15.1 Machine Guns and Machine Gun Gunnery
- 2. TM 08673A-10/1B Launcher, Assault Rocket 83mm (SMAW) MK153 MOD 0

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC Quantity

A064 Cartridge, 5.56mm 4 Ball M855/1 Trac 456 rounds per Team A131 Cartridge, 7.62mm 4 Ball M80/1 Trace 882 rounds per Team A135 Cartridge, 7.62mm Dummy M63 12 rounds per Team

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17581 Machine Gun Field Fire Range

EQUIPMENT: PPE

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: This task should be trained on the ISMT before expending live rounds. This task can be accomplished using training rounds. This task can be sustained through ISMT. Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CEB-MOBL-3010: Employ a heavy machinegun team

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Employ a heavy machinegun team in a mounted/dismounted position.

CONDITION: Given an operations order, a heavy machinegun team, mounted, sectors of fire, targets, FPF, and while wearing fighting loads.

STANDARD: To support the scheme of maneuver.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Emplace/mount the weapon.
- 3. Engage targets.
- 4. Control fires as directed.
- 5. Displace according to scheme of maneuver.
- 6. Prepare for follow-on missions.

REFERENCES:

- 1. MCWP 3-1 Ground Combat Operations
- 2. MCWP 3-15.1 Machine Guns and Machine Gun Gunnery

SUPPORT REQUIREMENTS:

ORDNANCE:

 $\frac{\text{DODIC}}{\text{A560 Cartridge, Caliber .50 Dummy M2}} \qquad \qquad \frac{\text{Quantity}}{\text{20 rounds per Team}}$

A576 Cartridge, Caliber .50 4 API M8/1 AP 604 rounds per Team B472 Cartridge, 40mm Dummy M922 20 rounds per Team B542 Cartridge, 40mm HEDP M430/M430A1 Lin 254 rounds per Team BA21 Cartridge, 40mm Practice (Day/Night) 32 rounds per Team

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17581 Machine Gun Field Fire Range

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

OTHER SUPPORT REQUIREMENTS: ORM

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: This task should be trained on the ISMT before expending live rounds. This task can be accomplished using training rounds. This task can be sustained through ISMT. Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CEB-MOBL-3011: Fell standing timber

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 3 months

DESCRIPTION: Fell standing timber to clear a forested area in support of operations.

<u>CONDITION</u>: Given an operations order, standing timber, appropriate hand tools, an SL-3 complete chainsaw, mixed fuel, personnel, and all personal protective equipment (PPE).

STANDARD: To clear a forested area in support of operations in accordance with the concept of operations and the commander's intent.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Determine equipment required.
- 3. Calculate time required for construction.
- 4. Prepare equipment for operation.
- 5. Move to site.
- 6. Establish safety zone.
- 7. Cut timber.
- 8. Submit required reports.

RELATED EVENTS:

1302-CMOB-1001	1302-CMOB-1002	1302-SURV-1001
1310-ADMN-2002	1310-ADMN-2004	1310-ADMN-2009
1310-ADMN-2010	1310-HEOP-2001	1310-MANT-2002
1345-HEOP-1004	1345-HEOP-1005	1345-HEOP-1006

1345-HEOP-2007	1345-MANT-1001	1345-MANT-2001
1349-ADMN-2004	1349-ADMN-2009	1349-ADMN-2010
1349-HEOP-2001	1349-MANT-2002	1371-CMOB-2001
1371-EOPS-1002	1371-EOPS-1003	1371-EOPS-2008

REFERENCES:

- 1. Appropriate TM/Manufacture's Manual for Chainsaw
- 2. MCRP 3-17A Engineering Field Data
- 3. MCRP 3-17B Engineer Forms and Reports

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
M023 Charge, Demolition Block M112 1-1/4	10 charges per Team
M032 Charge, Demolition Block TNT 1-Pound	10 charges per Team
M130 Cap, Blasting Electric M6	6 blasting caps per Team
M131 Cap, Blasting Non-Electric M7	6 blasting caps per Team
M456 Cord, Detonating PETN Type I Class E	1000 FT per Team
M591 Dynamite, Military M1	20 charges per Team
M670 Fuse, Blasting Time M700	500 FT per Team
MN08 Igniter, Time Blasting Fuse with Sho	10 igniters per Team
MN52 MK154 Mod 0	10 detonators per Team

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer tools and kits, PPE

OTHER SUPPORT REQUIREMENTS: ORM

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CEB-MOBL-3012: Employ the Armored Vehicle Launched Bridge (AVLB)

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 3 months

DESCRIPTION: Employ AVLB to bridge wet/dry gaps in support of GCE mobility requirements.

CONDITION: Given a tactical situation, an order, bridging assets, location of a gap to be spanned, current intelligence, and references.

STANDARD: To provide sufficient mobility to support the concept of operations and commanders intent.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Review obstacle intelligence reports.
- 3. Conduct battle drills (team) to rehearse crossing a gap.
- 4. Move to obstacle.
- 5. Deploy AVLB to span gap, as required.
- 6. Inspect placement of bridge component.
- 7. Submit required reports.
- 8. Recover, as required.

CHAINED EVENTS:

CEB-RECN-3001

RELATED EVENTS:

1302-MOBL-1005	1302-MOBL-1015	1371-MOBL-1001
1371-MOBL-2007	1371-MOBL-2008	1371-MOBL-2012
1372-MOBL-1012	1372-MOBL-1014	1372-MOBL-1015
1372-MOBL-1016	1372-MOBL-1017	1372-MOBL-1018

REFERENCES:

- 1. GTA 5-7-13 Bridge Classification Booklet
- 2. GTA 5-7-6 Bridge Design Card
- 3. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 4. MCRP 3-17.7I Earthmoving Operations
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.1 Combined Arms Gap-Crossing Operations
- 9. MCWP 3-17.3 MAGTF Breaching Operations
- 10. MCWP 3-17.4 Engineer Reconnaissance
- 11. MCWP 3-17.8 Combined Arms Mobility Operations
- 12. TM 5-5420-202-10 Operator's Manual for M-60 AVLB

SUPPORT REQUIREMENTS:

ORDNANCE:

<u>DODIC</u> <u>Quantity</u>

G826 Grenade, Launcher Smoke Infrared Scr 12 grenades per squad

RANGE/TRAINING AREA: Facility Code 17921 Armored Vehicle Launch Bridge,
Raft, And Ford Area

EQUIPMENT: Combat engineer equipment, tools, kits used for gap crossing, PPE

UNITS/PERSONNEL: Range safety officer, Corpsman

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event.

CEB-MOBL-3013: Operate small craft

SUPPORTED MCT(S): MCT 1.4.1

SUSTAINMENT INTERVAL: 3 months EVALUATION-CODED: NO

DESCRIPTION: Operate small craft to reconnoiter littoral areas in support of mobility requirements.

CONDITION: Given a mission, commander's intent, a map, task organization of personnel and equipment, waterway to reconnaissance/scout, and the references.

STANDARD: To conduct an engineer reconnaissance of specified waterway, gather all relevant engineer data, produce a report in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Review the order.
- 2. Coordinate with supported unit.
- 3. Prepare equipment for operation.
- 4. Move to launch point.
- 5. Launch reconnaissance team.
- 6. Conduct reconnaissance mission.
- 7. Recover reconnaissance team.
- 8. Submit required reports.

PREREQUISITE EVENTS:

1342-MANT-1001	1342-MANT-1002	1342-MANT-1004
RELATED EVENTS:		
1302-MOBL-1015	1310-ADMN-2002	1310-ADMN-2004
1310-ADMN-2009	1310-MANT-2001	1310-MANT-2002
1342-MANT-1001	1342-MANT-1002	1342-MANT-1004
1342-MANT-1010	1349-ADMN-2002	1349-ADMN-2004
1349-ADMN-2009	1349-MANT-2001	1349-MANT-2002
1371-MOBL-1005	1371-MOBL-2005	1371-MOBL-2008
1371-MOBL-2028		

REFERENCES:

- 1. MCWP 3-17.8 Combined Arms Mobility Operations
- 2. TM 09665 B-10/1 Combat Rubber Reconnaissance Craft Field Service Manual
- 3. TM 09665A-13&P/1-1 Operation and Maintenance of the Combat Rubber Reconnaissance Craft
- 4. TM 09665A-13&P/1-2 Operation and Maintenance of the Combat Rubber Reconnaissance Craft
- 5. TM 09665B The 55 HP Engine
- 6. TM 09665B/10717A Small Craft Propulsion System, CRRC

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17922 Floating Bridge Site

CEB-MOBL-3014: Conduct route clearance operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Conduct route clearance operations to clear all obstacles along a route. Obstacles may include mines, unexploded ordnance, improvised explosive devices, non-explosive obstacles, and damage to the route that severely limits mobility. The route will only be "cleared" while it remains under the control/observation of friendly forces.

CONDITION: Provided a mission, a designated route with known/ potential/ suspected obstacle(s), personnel, engineer tools and equipment, intelligence support, demolition tools, explosives, and references.

STANDARD: To ensure friendly force mobility on the cleared route [friendly forces are not fixed, turned, blocked, nor disrupted] in accordance with the commanders intent, while the route remains in friendly forces control.

EVENT COMPONENTS:

- 1. Analyze route intelligence.
- 2. Task organize.
- 3. Coordinate with supported unit.
- 4. Coordinate with supporting units.
- 5. Detect obstacles on route.
- 6. Identify obstacle(s).
- 7. Mark obstacle(s), as required.
- 8. Reduce obstacle(s), as required.
- 9. Verify obstacle reduction.
- 10. Identify bypasses, as required.
- 11. Submit required reports.

RELATED EVENTS:

1302-DEMO-1004	1302-MOBL-1003	1302-MOBL-1004
1302-MOBL-1008	1302-MOBL-1009	1302-MOBL-1010
1302-PLAN-2006	1371-MOBL-1002	1371-MOBL-1003
1371-MOBL-2012	1371-MOBL-2020	1371-MOBL-2021
1371-MOBL-2022	1371-MOBL-2023	1371-MOBL-2024
1371-MOBL-2025	1371-MOBL-2026	1371-MOBL-2027
1371-MOBL-2035		

REFERENCES:

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. GTA 5-7-13 Bridge Classification Booklet
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17.3 MAGTF Breaching Operations
- 7. MCWP 3-17.4 Engineer Reconnaissance
- 8. MCWP 3-17.8 Combined Arms Mobility Operations

- 9. MCWP 3-35.5 Jungle Operations
- 10. MCWP 3-35.6 Desert Operations

ORDNANCE:

DODIC	Quantity
M032 Charge, Demolition Block TNT 1-Pound	10 charges per Team
M130 Cap, Blasting Electric M6	30 blasting caps per Team
M456 Cord, Detonating PETN Type I Class E	2000 FT per Team
M670 Fuse, Blasting Time M700	250 FT per Team
M757 Charge, Assembly Demolition M183 Com	2 cases per Team
MN08 Igniter, Time Blasting Fuse with Sho	2 igniters per Team
MN88 Cap, Blasting, 500 ft mini-tube M21	5 blasting caps per Team
MN90 Cap, Blasting, 1000 ft mini-tube M23	10 blasting caps per Team

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer equipment, Engineer equipment

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CEB-MOBL-3015: Conduct area clearance operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Conduct area clearance operations to eliminate obstacle(s) [explosive or non-explosive] in a limited area to provide a secure environment.

CONDITION: Provided a mission, a designated area with known/potential/suspected obstacle(s), engineer tools and equipment, demolition tools, explosives, and references.

STANDARD: To eliminate obstacle(s) [explosive or non-explosive] in a limited area to provide a secure environment for operations in accordance with the commander's intent and mobility plan.

EVENT COMPONENTS:

- 1. Visually assess the terrain.
- 2. Sweep area.
- 3. Identify and confirm hazards.
- 4. Reduce explosive or non-explosive hazards.
- 5. Verify reduction of hazard.

6. Submit required reports.

RELATED EVENTS:

1302-DEMO-2001	1302-MOBL-1003	1302-MOBL-1004
1302-MOBL-1004	1302-MOBL-1005	1302-MOBL-1005
1302-MOBL-1009	1302-MOBL-1010	1345-HEOP-2007
1371-MOBL-2021		

REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 3-17.3 MAGTF Breaching Operations
- 8. MCWP 3-17.4 Engineer Reconnaissance
- 9. MCWP 3-17.8 Combined Arms Mobility Operations
- 10. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 11. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
$\overline{\text{J}143}$ Rocket Motor, 5-inch MK22 Mod 4	9 rocket per Platoon
M028 Demolition Kit, Bangalore Torpedo M1	3 cases per Platoon
M032 Charge, Demolition Block TNT 1-Pound	20 charges per Platoon
M130 Cap, Blasting Electric M6	30 blasting caps per Platoon
M131 Cap, Blasting Non-Electric M7	30 blasting caps per Platoon
M456 Cord, Detonating PETN Type I Class E	4000 FT per Platoon
M670 Fuse, Blasting Time M700	1500 FT per Platoon
M757 Charge, Assembly Demolition M183 Com	6 cases per Platoon
M913 Charge, Demolition High Explosive Li	6 charges per squad
M914 Charge, Demolition Inert Linear M68A	3 charges per squad
ML03 Firing Device, Demolition Multi-Purp	6 detonators per Platoon
MN08 Igniter, Time Blasting Fuse with Sho	50 igniters per Platoon
MN52 MK154 Mod 0	30 detonators per Platoon
MN79 Mine, Antipersonnel Obstacle Breachi	3 mines per Platoon

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer equipment, Engineer equipment.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CEB-RECN-3001: Conduct gap reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct gap reconnaissance to evaluate gaps and fording sites, identify obstacles, suitable bypasses, and record any other relevant engineer information on the appropriate reconnaissance forms.

<u>CONDITION</u>: Provided a mission, a tactical scenario, blank engineer reconnaissance forms (DA Form 1711-R), personnel, equipment, and reference.

STANDARD: To ensure the crossing is supportable and consistent with the commander's intent, while accounting for all tactical control measures per the references.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Review the map of the route to be taken.
- 3. Proceed to assigned objective.
- 4. Reconnoiter gap as required.
- 5. Determine wet gap fording/bridging sites as required.
- 6. Identify suitable bypasses.
- 7. Submit required reports.

RELATED EVENTS:

1302-MOBL-1010	1302-MOBL-1011	1302-MOBL-1012
1302-MOBL-1013	1302-MOBL-1014	1302-MOBL-1015
1302-RECN-1001	1371-MOBL-2006	1371-MOBL-2007
1371-MOBL-2009	1371-MOBL-2017	1371-RECN-1001
1371-RECN-2001		

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. GTA 5-7-13 Bridge Classification Booklet
- 5. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 9. MCWP 3-1 Ground Combat Operations
- 10. MCWP 3-17 Engineering Operations
- 11. MCWP 3-17.3 MAGTF Breaching Operations
- 12. MCWP 3-17.4 Engineer Reconnaissance
- 13. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17920 Panel Bridge Area

CEB-RECN-3002: Conduct ferry reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Conduct ferry reconnaissance to identify areas to be used to cross, evaluate ferry sites, identify obstacles, suitable bypasses, and record any other relevant engineer information on the appropriate reconnaissance forms.

<u>CONDITION</u>: Provided a mission, a tactical scenario, blank engineer reconnaissance forms (DA Form 1711-R), personnel, equipment, and references.

STANDARD: To ensure the crossing is supportable and consistent with the commander's intent, while accounting for all tactical control measures per the references.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Review the map of the route to be taken.
- 3. Identify pre-existing ferrying sites/boat ramps.
- 4. Proceed to assigned objective.
- 5. Reconnoiter ferrying site as required.
- 6. Determine ferrying sites as required.
- 7. Identify suitable bypasses.
- 8. Submit required reports.

RELATED EVENTS:

1302-RECN-1001 1371-RECN-1001 1371-RECN-2001

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. GTA 5-7-13 Bridge Classification Booklet
- 5. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.1 River-Crossing Operations
- 10. MCWP 3-17.4 Engineer Reconnaissance

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17920 Panel Bridge Area

CEB-RECN-3003: Conduct cache sweep

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 3 months

DESCRIPTION: Conduct cache sweep to detect suspected caches of weapons/ordnance, to include: IEDs, mines, ammunition, weapons, and explosives.

CONDITION: Provided a mission order, a mine detector, personnel, equipment, personal protective equipment, and references.

<u>STANDARD</u>: To locate, mark, and neutralize all undiscovered ordnance, munitions, mines, ammunition, weapons, and explosives per commanders intent and mission requirement.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Determine detector to be used.
- 3. Prepare equipment for operation.
- 4. Move to site.
- 5. Establish safety zone.
- 6. Conduct area sweep.
- 7. Locate and mark the object.
- 8. Identify the object.
- 9. Destroy object(s) as required.
- 10. Proof area.
- 11. Submit required reports.

RELATED EVENTS:

1302-DEMO-1004	1302-MOBL-1002	1302-MOBL-1003
1302-MOBL-1009	1302-PLAN-2006	1371-MOBL-1002
1371-MOBL-1003	1371-MOBL-2018	1371-MOBL-2020
1371-MOBL-2021	1371-MOBL-2022	

REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
M032 Charge, Demolition Block TNT 1-Pound	20 charges per Team
M039 Charge, Demolition Cratering 40-Poun	1 charges per Team
M130 Cap, Blasting Electric M6	20 blasting caps per Team
M131 Cap, Blasting Non-Electric M7	10 blasting caps per Team
M420 Charge, Demolition Shaped M2 Series	1 charges per Team
M421 Charge, Demolition Shaped M3 Series	1 charges per Team

M456 Cord, Detonating PETN Type I Class E
M456 Cord, Detonating PETN Type I Class E
M591 Dynamite, Military M1
M670 Fuse, Blasting Time M700
M670 Fuse, Blasting Time M700
M757 Charge, Assembly Demolition M183 Com
MN08 Igniter, Time Blasting Fuse with Sho
M1000 FT per Team
1000 FT per Team
10 charges per Team
20 igniters per Team
20 igniters per Team

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer equipment, tools and kits.

UNITS/PERSONNEL: Range Safety Officer, Corpsman, EOD personnel, Weapons
Intelligence Team.

OTHER SUPPORT REQUIREMENTS: ORM

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CEB-RECN-3004: Conduct tunnel/cave reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: NO **SUSTAINMENT INTERVAL:** 6 months

<u>DESCRIPTION</u>: Conduct tunnel/cave reconnaissance to determine essential information such as the serial number, location, type, length, width (including sidewalks), bypasses, alignment, gradient, and cross section.

<u>CONDITION</u>: Provided a mission, a tactical scenario, blank engineer reconnaissance forms (DA Form 1711-R), personnel, equipment, and references.

STANDARD: To evaluate tunnels; identify obstacles; identify suitable bypasses; record any relevant engineer information on the appropriate reconnaissance forms and transfer to a map overlay using correct engineer/tactical symbols per the references.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Review the map of the route to be taken.
- 3. Proceed to assigned objective.
- 4. Reconnoiter tunnel as required.
- 5. Evaluate tunnel as required.
- 6. Identify suitable bypasses.
- 7. Submit required reports.

RELATED EVENTS:

1302-RECN-1001 1371-RECN-1001 1371-RECN-2001

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. GTA 5-7-13 Bridge Classification Booklet
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.3 MAGTF Breaching Operations
- 10. MCWP 3-17.4 Engineer Reconnaissance
- 11. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Motor Transport equipment, Range finder, Tape measure, Compass, Protractor, Camera, Maps.

<u>CEB-RECN-3005</u>: Survey site for construction

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: NO **SUSTAINMENT INTERVAL:** 12 months

<u>DESCRIPTION</u>: Survey site for construction to allow critical planning for construction and or operations in support of the GCE.

CONDITION: Provided a construction mission, a map, a scientific calculator, task organized personnel, equipment, and references.

STANDARD: To support commander's intent and mission requirements.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Move to survey site.
- 3. Reconnoiter project site as required.
- 4. Submit required reports.

RELATED EVENTS:

1302-HORZ-1001	1302-PLAN-1002	1302-PLAN-2004
1302-VERT-1001	1361-SRVY-1001	1361-SRVY-1002
1361-SRVY-1003	1361-SRVY-1004	1361-SRVY-1005
1361-SRVY-1006	1361-SRVY-1007	1361-SRVY-1008
1361-SRVY-1008	1361-SRVY-1009	1361-SRVY-1010
1361-SRVY-1011	1361-SRVY-1012	1361-SRVY-2002
1361-XENG-2001	1361-XENG-2002	1371-PLAN-2002

REFERENCES:

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7D Concrete and Masonry
- 3. MCRP 3-17A Engineering Field Data
- 4. MCWP 3-17.4 Engineer Reconnaissance
- 5. NAVEDTRA 10696 Engineer Aid 3
- 6. TM 5-581B Construction Drafting
- 7. TM 5-704 Construction Print Reading in the Field

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

CEB-RECN-3006: Conduct obstacle reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct obstacle reconnaissance to focus on answering obstacle intelligence IR-obstacle location, width, and depth; obstacle composition (wire, mines by type, and so forth.); soil conditions; locations of lanes and bypasses; and the location of enemy direct-fire systems.

CONDITION: Provided a mission, a tactical scenario, blank engineer reconnaissance forms (DA Form 1711-R), personnel, equipment, and references.

STANDARD: To identify obstacles; identify suitable bypasses; and record any other relevant engineer information on the appropriate reconnaissance forms per the references. All information will be transferred to a map overlay using correct engineer/tactical symbols.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Review the map of the route to be taken.
- 3. Proceed to assigned objective.
- 4. Determine obstacle type and location.
- 5. Reconnoiter obstacle as required.
- 6. Locate and mark the object.
- 7. Identify the object.
- 8. Identify suitable bypasses.
- 9. Submit required reports.

RELATED EVENTS:

1302-RECN-1001 1371-RECN-1001 1371-RECN-2001

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. GTA 05-07-013 Bridge Classification Card (2006)
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports

- 6. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.4 Engineer Reconnaissance
- 9. MCWP 3-17.8 Combined Arms Mobility Operations

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17920 Panel Bridge Area

EQUIPMENT: Motor Transport equipment, Range finder, Tape measure, Compass, Protractor, Camera, Maps.

CEB-RECN-3007: Conduct bridge reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct bridge reconnaissance to collect detailed technical information on selected bridges. This assessment provides the basic Military Load Classification (MLC) information necessary for the commander to plan for the use of the bridge.

CONDITION: Provided a mission, a tactical scenario, blank engineer reconnaissance forms (DA Form 1711-R), personnel, equipment, and references

STANDARD: To classify bridges, identify obstacles, identify suitable bypasses, and record any other relevant engineer information on the appropriate reconnaissance forms per the references. All information will be transferred to a map overlay using correct engineer/tactical symbols

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Review the map of the route to be taken.
- 3. Proceed to assigned objective.
- 4. Reconnoiter bridge.
- 5. Classify bridge(s) as required.
- 6. Identify suitable bypasses.
- 7. Submit required reports.

RELATED EVENTS:

1302-RECN-1001 1371-RECN-1001 1371-RECN-2001

REFERENCES:

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. GTA 5-7-13 Bridge Classification Booklet
- 3. JP 3-34 Joint Engineer Operations
- 4. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)

- 8. MCWP 3-1 Ground Combat Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.5 Combined Arms Countermobility Operations

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17920 Panel Bridge Area

CEB-RECN-3008: Conduct road reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Conduct road reconnaissance to collect detailed technical information on the engineering characteristics and trafficability of a road section within a route.

CONDITION: Provided a mission, a tactical scenario, blank engineer reconnaissance forms (DA Form 1711-R), personnel, equipment, and references.

STANDARD: To classify roads, routes; identify obstacles; identify suitable bypasses; and record any other relevant engineer information on the appropriate reconnaissance forms per the references. All information will be transferred to a map overlay using correct engineer/tactical symbols.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Review the map of the route to be taken.
- 3. Proceed to assigned objective.
- 4. Reconnoiter road and road section within a route, as required.
- 5. Classify road(s) as required.
- 6. Classify route(s) as required.
- 7. Identify suitable bypasses.
- 8. Submit required reports.

RELATED EVENTS:

1302-RECN-1001 1371-RECN-1001 1371-RECN-2001

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.4 Engineer Reconnaissance
- 9. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Motor Transport equipment, Range finder, Tape measure, Compass, Protractor, Camera, Maps.

CEB-SURV-3001: Construct trenches

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 12 months

DESCRIPTION: Employ organic hand tools and/or earth moving assets, tools and equipment.

CONDITION: Given an operations order, personnel, and engineer equipment.

STANDARD: That allows multiple combatant's protection from direct fire weapons, affords a force the capability to engage targets from front and oblique's, meets or exceeds the mission requirement and supports the concept of operation in accordance with the commander's intent.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Calculate time required for construction.
- 3. Prepare equipment for operation.
- 4. Move to site.
- 5. Establish safety zone.
- 6. Dig emplacement as required.
- 7. Displace equipment as required.
- 8. Submit required reports.

RELATED EVENTS:

1302-SURV-1001	1310-HEOP-2001	1310-MANT-2002
1345-HEOP-1004	1345-HEOP-2005	1349-HEOP-2001
1349-MANT-2002	1371-SURV-1001	

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCRP 3-17A Engineering Field Data
- 3. MCRP 3-17B Engineer Forms and Reports
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.5 Combined Arms Countermobility Operations
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 8. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 9. MCWP 3-41.1 Rear Area Operations
- 10. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Engineer equipment

MATERIAL: Map, Compass, Protractor, Overlay Sheets, Reconnaissance Reports

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

CEB-SURV-3002: Construct shelters/bunkers

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Construct shelters/bunkers to provide combatant(s) and/or combat equipment cover from the elements, indirect/direct fire weapons.

CONDITION: Given an operations order, personnel, and engineer equipment.

STANDARD: That provides combatant(s) and/or combat equipment cover from the elements, indirect/direct fire weapons, and meets or exceeds the mission requirement and supports the concept of operation in accordance with the commander's intent.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Design position required.
- 3. Determine material required.
- 4. Calculate time required for construction.
- 5. Prepare equipment for operation.
- 6. Move to site.
- 7. Establish safety zone.
- 8. Construct shelter/bunker, as required.
- 9. Displace equipment, as required.
- 10. Submit required reports.

RELATED EVENTS:

RELATED EVENTS:		
1302-CMOB-1001	1302-CMOB-1003	1302-SURV-1001
1302-SURV-1003	1310-HEOP-2001	1310-HORZ-2001
1310-HORZ-2002	1310-HORZ-2003	1310-MANT-2002
1316-ADMN-1001	1316-ADMN-2001	1316-ADMN-2002
1316-XENG-1001	1316-XENG-1006	1316-XENG-2002
1345-HEOP-1003	1345-HEOP-1004	1345-HEOP-1005
1345-HEOP-1007	1345-HEOP-2006	1345-HEOP-2007
1345-HEOP-2012	1345-MANT-1001	1345-MANT-2001
1349-HEOP-2001	1349-HORZ-2001	1349-HORZ-2002
1349-HORZ-2003	1349-MANT-2002	1371-CMOB-1001
1371-CMOB-1002	1371-CMOB-1003	1371-CMOB-2001
1371-CMOB-2002	1371-SURV-1001	1371-SURV-2001
1371-SURV-2002		

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-41.1 Rear Area Operations
- 8. MCWP 4-11 Tactical-Level Logistics

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Engineer equipment and combat engineer tools and kits.

MATERIAL: Map, Compass, Protractor, Overlay sheets, Reconnaissance
reports, Class IV materials as required.

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

CEB-SURV-3003: Construct vehicle survivability position/revetment

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Construct vehicle survivability position/revetment to increase vehicle survivability.

 $\underline{\text{CONDITION}}$: Given an operations order, personnel, engineer equipment, and materials.

<u>STANDARD</u>: To build vehicle survivability positions/revetments that meets or exceeds the mission requirement and support the concept of operation in accordance with the commander's intent.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Design position required.
- 3. Determine material required.
- 4. Calculate time required for construction.
- 5. Prepare equipment for operation.
- 6. Move to site.
- 7. Establish safety zone.
- 8. Construct Revetment, as required.
- 9. Displace equipment, as required.
- 10. Submit required reports.

RELATED EVENTS:

1310-ADMN-2004 1310-ADMN-2009

1310-ADMN-2010	1310-HEOP-2001	1310-HORZ-2001
1310-HORZ-2002	1310-HORZ-2003	1310-MANT-2002
1316-ADMN-2001	1316-ADMN-2002	1316-XENG-2002
1316-XENG-2005	1345-HEOP-1004	1345-HEOP-1005
1345-HEOP-1007	1345-HEOP-2006	1345-HEOP-2007
1345-HEOP-2012	1345-MANT-1001	1345-MANT-2001
1349-HEOP-2001	1349-HORZ-2001	1349-HORZ-2002
1349-HORZ-2003	1349-MANT-2002	1371-SURV-2001

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. GTA 05-08-001 Survivability Positions
- 4. MCRP 3-17.7C Carpentry
- 5. MCRP 3-17A Engineering Field Data
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.5 Combined Arms Countermobility Operations
- 8. MCWP 3-17.6 Survivability
- 9. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 10. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 11. MCWP 3-41.1 Rear Area Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Engineer equipment assets.

MATERIAL: Class IV supplies.

<u>CEB-SURV-3004</u>: Construct crew served weapons position

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Construct crew served weapons position to enable weapons to engage targets from front and oblique's.

CONDITION: Given an operations order, personnel, and engineer equipment.

STANDARD: That allows a weapons team the capability to engage targets from front and oblique's, and meets or exceeds the mission requirement and support the concept of operation in accordance with the commander's intent.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Prepare equipment for operation.
- 3. Move to site.
- 4. Establish safety zone.
- 5. Dig emplacement, as required.
- 6. Displace equipment, as required.

7. Submit required reports.

RELATED EVENTS:		
1302-SURV-1002	1310-ADMN-2004	1310-ADMN-2009
1310-ADMN-2010	1310-HEOP-2001	1310-HORZ-2001
1310-HORZ-2002	1310-HORZ-2003	1310-MANT-2002
1316-ADMN-2001	1316-ADMN-2002	1316-XENG-2002
1316-XENG-2005	1345-HEOP-1004	1345-HEOP-1005
1345-HEOP-1007	1345-HEOP-2006	1345-HEOP-2007
1345-HEOP-2012	1345-MANT-1001	1345-MANT-2001
1349-HEOP-2001	1349-HORZ-2001	1349-HORZ-2002
1349-HORZ-2003	1349-MANT-2002	1371-SURV-2001

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17A Engineering Field Data
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 7. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 8. MCWP 3-41.1 Rear Area Operations
- 9. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Engineer equipment, Combat engineer tools & kits.

<u>MATERIAL</u>: Map, Compass, Protractor, Overlay sheets, Reconnaissance reports, Class IV supplies as required.

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM.

CEB-SURV-3005: Construct overhead cover

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 6 months

DESCRIPTION: Construct overhead cover that meets or exceeds the maximum threat capability of enemy weapons systems.

CONDITION: Given an operations order, personnel, and engineer equipment.

STANDARD: with design specifications that meet or exceeds the maximum threat capability of enemy weapons systems.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Design position required.
- 3. Determine material required.
- 4. Calculate time required for construction.
- 5. Prepare equipment for operation.
- 6. Move to site.
- 7. Establish safety zone.
- 8. Construct overhead cover, as required.
- 9. Displace equipment, as required.
- 10. Submit required reports.

RELATED EVENTS:

VETWIED PARMIE.		
1302-SURV-1001	1310-ADMN-2004	1310-ADMN-2009
1310-ADMN-2010	1310-HEOP-2001	1310-MANT-2002
1316-ADMN-1001	1316-ADMN-1002	1316-ADMN-2001
1316-ADMN-2002	1316-XENG-1001	1316-XENG-1006
1316-XENG-2002	1345-HEOP-1003	1345-HEOP-1004
1345-HEOP-2007	1345-HEOP-2012	1345-MANT-1001
1345-MANT-2001	1349-ADMN-2004	1349-ADMN-2009
1349-ADMN-2010	1349-HEOP-2001	1349-MANT-2002
1371-SURV-1001	1371-SURV-2001	

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 8. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 9. MCWP 3-41.1 Rear Area Operations
- 10. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Engineer equipment and combat engineer tools & kits.

MATERIAL: Map, Compass, Protractor, Overlay Sheets, Reconnaissance Reports, Class IV supplies as required.

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

<u>CEB-SURV-3006</u>: Construct individual fighting position

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Construct individual fighting positions and/or trenches to protect one or more dismounted Marines armed with individual weapons, while supporting their ability to engage the enemy. Fighting positions typically consist of a hole in the ground, supplemented with frontal, overhead, and flank or rear cover as the time and situation permits. Trenches typically connect fighting positions, C2 nodes and logistical hubs while providing cover from enemy observation and direct /indirect fire.

CONDITION: Given an operations order, personnel, and engineer equipment.

STANDARD: Positions are planned and designed so that they are concealed, mutually supporting, and have interlocking fields of fire in all directions and protect occupants against enemy direct-fire weapons systems.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Prepare equipment for operation.
- 3. Move to site.
- 4. Establish safety zone.
- 5. Dig emplacement, as required.
- 6. Displace equipment, as required.
- 7. Submit required reports.

RELATED EVENTS:

1302-SURV-1001	1310-ADMN-2004	1310-ADMN-2009
1310-ADMN-2010	1310-HEOP-2001	1310-MANT-2002
1345-HEOP-1003	1345-HEOP-1004	1345-HEOP-1005
1345-HEOP-2012	1345-MANT-1001	1371-SURV-1001
1371-SURV-2001		

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 8. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 9. MCWP 3-41.1 Rear Area Operations
- 10. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Engineer equipment, Combat engineer tools & kits

<u>MATERIAL</u>: Map, Compass, Protractor, Overlay sheets, Reconnaissance reports, Class IV materials as required.

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

CEB-SURV-3007: Construct triggering screen

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Construct triggering screens are built separately or added on to existing structures and used to activate the fuze of an incoming shell or projectile at a designated standoff distance from the structure.

CONDITION: Given an operations order, personnel, and engineer equipment.

STANDARD: So that it provides an effective screen against enemy weapons systems.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Design position required.
- 3. Determine material required.
- 4. Calculate time required for construction.
- 5. Prepare equipment for operation.
- 6. Move to site.
- 7. Establish safety zone.
- 8. Construct blast screen, as required.
- 9. Displace equipment, as required.
- 10. Submit required reports.

RELATED EVENTS:

1302-SURV-1001 1302-SURV-1002 1371-SURV-1001 1371-SURV-2001

REFERENCES:

- 1. JP 3-34 ENGINEER DOCTRINE FOR JOINT OPERATIONS
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 8. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 9. MCWP 3-41.1 Rear Area Operations
- 10. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Engineer equipment, Combat engineer tools & kits

MATERIAL: Map, Compass, Protractor, Overlay sheets, Reconnaissance

reports, Class IV materials, as required.

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

CEB-SURV-3008: Construct vehicle fighting position

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Construct vehicle fighting position to increase vehicle survivability.

CONDITION: Given an operations order, personnel, engineer equipment, and materials.

STANDARD: That meets or exceeds the mission requirement for the specified vehicle/weapons system in accordance with the concept of operations.

EVENT COMPONENTS:

- 1. Review the mission.
- 2. Coordinate with supported unit.
- 3. Prepare equipment for operation.
- 4. Move to site.
- 5. Establish safety zone.
- 6. Dig emplacement as required per vehicle type and weapon employment.
- 7. Displace equipment, as required.
- 8. Submit required reports.

RELATED EVENTS:

KETHIED EARINE.		
1302-SURV-1002	1310-HEOP-2001	1310-HORZ-2001
1310-HORZ-2002	1310-HORZ-2003	1310-MANT-2002
1345-HEOP-1004	1345-HEOP-1005	1345-HEOP-1007
1345-HEOP-2006	1345-HEOP-2007	1345-HEOP-2012
1345-MANT-1001	1349-HEOP-2001	1349-HORZ-2001
1349-HORZ-2002	1349-HORZ-2003	1349-MANT-2002
1371-SURV-2001		

REFERENCES:

- 1. MCRP 3-17A Engineering Field Data
- 2. MCWP 3-17 Engineering Operations
- 3. MCWP 3-17.6 Survivability
- 4. MCWP 3-41.1 Rear Area Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Engineer equipment assets.

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM.

CEB-UTIL-3001: Establish tactical power distribution system

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Provide the appropriate power distribution equipment to establish a tactical electric grid in order to distribute electric power that meets operational requirement and commander's intent.

CONDITION: With a utilities plan, required equipment and personnel.

STANDARD: To accomplish operational requirements and commanders intent.

EVENT COMPONENTS:

- 1. Coordinate with supported unit(s).
- 2. Determine load requirements.
- 3. Plan power distribution system(s).
- 4. Set up distribution system(s).
- 5. Inspect grounding and connections.
- 6. Energize system(s).
- 7. Test system(s).

RELATED EVENTS:

1141-ADMN-1002	1141-ADMN-1006	1141-MANT-1101
1141-MANT-1224	1141-MANT-2244	1141-XENG-1601
1141-XENG-1624	1141-XENG-1703	1141-XENG-2501
1141-XENG-2521	1141-XENG-2621	1141-XENG-2622
1141-XENG-2623	1141-XENG-2721	1141-XENG-2821

REFERENCES:

- 1. Appropriate Technical Manuals
- 2. FM 5-424 Theater of Operations Electrical Systems
- 3. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 4. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Power Distribution Systems, Power Generation Systems, PPE, MHE, Motor Transport equipment, HazMat Containment Kit.

CEB-UTIL-3002: Provide floodlight support

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Provide illumination during low light conditions in order to meet mission requirements and commanders intent.

CONDITION: With an operational order, required equipment and personnel

STANDARD: To properly illuminate required area.

EVENT COMPONENTS:

- 1. Coordinate with Supported unit(s).
- 2. Establish illumination plan.
- 3. Set up floodlight set(s).
- 4. Operate a floodlight.
- Recover floodlight set(s).

RELATED EVENTS:

1141-ADMN-1006	1141-ADMN-1007	1141-ADMN-1008
1141-ADMN-1009	1141-MANT-1101	1141-MANT-1247
1141-XENG-1703	1141-XENG-1747	1141-XENG-2622

REFERENCES:

- 1. FM 5-424 Theater of Operations Electrical Systems
- 2. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: PPE, tools and kits.

CEB-UTIL-3003: Establish power generation site(s)

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Provide the appropriate power generation equipment to establish a/or generator site(s) that meet the operational requirement and commanders intent.

CONDITION: With a utilities plan, required equipment and personnel

STANDARD: To ensure operational requirements are met.

EVENT COMPONENTS:

- 1. Coordinate with supported unit(s).
- 2. Set up generator site(s).
- 3. Inspect grounding and connections.
- 4. Energize system(s).
- 5. Perform operational check(s).
- 6. Test system.

RELATED EVENTS:

1141-ADMN-1006	1141-ADMN-1007	1141-ADMN-1008
1141-ADMN-1009	1141-MANT-1101	1141-XENG-1601
1141-XENG-1618	1141-XENG-1751	1141-XENG-1752
1141-XENG-1753	1141-XENG-1754	1141-XENG-1757
1141-XENG-1763	1141-XENG-1765	1141-XENG-1795
1141-XENG-2622	1141-XENG-2718	1141-XENG-2737
1141-XENG-2750	1141-XENG-2755	

REFERENCES:

- 1. Appropriate Technical Manuals
- 2. FM 5-424 Theater of Operations Electrical Systems
- 3. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 4. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Power Generation Systems, PPE, MHE, Motor Transport equipment, HazMat Containment Kit.

CEB-UTIL-3004: Wire a structure for electricity

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Install interior electrical wiring in order to distribute electricity to meet electrical power requirements.

CONDITION: Provided a mission, resources, required equipment, and personnel.

STANDARD: To establish operational power per commander's intent to support mission requirements.

EVENT COMPONENTS:

- 1. Coordinate with supported unit(s).
- 2. Estimate and requisition materials (as required).
- 3. Calculate time required to wire structure.
- 4. Gather tools and materials.

- 5. Set safety zone, lockout and tagout any preexisting electrical circuits that will be worked on, as required.
- 6. Verify the location of preexisting underground utility lines.
- 7. Install electrical boxes, interior/exterior wiring, service feeder, service entrance cables and main and sub panel boxes, as required.
- 8. Install equipment and system grounding, as required.
- 9. Request qualified inspector to complete uncovered/rough-in electrical inspection.
- 10. Install devices, circuit breakers, fixtures and electrical equipment, as required.
- 11. Request qualified inspector to complete final electrical inspection.
- 12. Request qualified personnel to connect service feeder to appropriate transformer or power generation, as required.
- 13. Energize and test electrical system.
- 14. Submit required reports.

RELATED EVENTS:

1141-ADMN-1002	1141-ADMN-2031	1141-MANT-1101
1141-XENG-1601	1141-XENG-1703	1141-XENG-1961
1141-XENG-1962	1141-XENG-2561	1141-XENG-2622
1141-XENG-2623	1141-XENG-2694	1141-XENG-2696
1141-XENG-2963	1141-XENG-2964	1141-XENG-2965
1141-XENG-2966		

REFERENCES:

- 29 CFR 1910.147 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 147 - Control of Hazardous Energy (Lockout/Tagout)
- 2. 29 CFR 1910.269 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 269 -Electrical Power Generation, Transmission, and Distribution
- 3. 29 CFR 1910.301-399 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Subpart S, (Standard Numbers 301-399) Electrical
- 4. FM 5-424 Theater of Operations Electrical Systems
- 5. NEC (NFPA 70) National Electrical Code by National Fire Protection Association

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Electrical materials (as required), PPE, tools and kits.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Final inspection must be performed by a qualified inspector who is a graduate of one or more listed courses: Advanced Electrician (AE), Utilities Chief (UC), or Utilities Officer (UO) Course.

CEB-UTIL-3005: Provide Environmental Control Unit (ECU) support

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Utilize ECU equipment in order to provide adequate climate control for critical equipment that is sensitive to extreme temperatures.

CONDITION: With an operational order, required equipment and personnel

STANDARD: In accordance with the operational order.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- 2. Establish ECU support plan.
- Install ECU(s).
- 4. Maintain ECU(s).

RELATED EVENTS:

1161-ADMN-1006	1161-MANT-1211	1161-MANT-1218
1161-XENG-1611	1161-XENG-1614	1161-XENG-1634
1161-XENG-2541	1161-XENG-2618	1161-XENG-2641
1161-XENG-2741		

REFERENCES:

- 1. 40 CFR 82 Chapter 40, Code of Federal Regulations, Part Number 82 (Protection of Stratospheric Ozone)
- 2. 42 USC 85 VI 7671 Title 42, United States Code, Chapter 85, Subchapter VI, Section 7671 (Ozone Protection)
- 3. MCO 5090.1 Chlorofluorocarbons (CFC's) and Halons
- 4. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: PPE, power generation, distribution, ECU equipment, maintenance equipment as required

CEB-UTIL-3006: Provide refrigeration support

SUPPORTED MCT(S): MCT 4.4.4.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Provide limited refrigeration for cooling and freezing as required.

CONDITION: With an operational order, required equipment and personnel

STANDARD: In accordance with the operational order.

EVENT COMPONENTS:

- 1. Coordinate with supported unit.
- Setup refrigeration unit(s).
- 3. Maintain refrigeration unit(s).
- 4. Recover refrigeration unit(s).

RELATED EVENTS:

1161-ADMN-1006 1161-MANT-1235 1161-XENG-1635 1161-XENG-2541 1161-XENG-2642 1161-XENG-2741

REFERENCES:

- 1. 40 CFR 82 Chapter 40, Code of Federal Regulations, Part Number 82 (Protection of Stratospheric Ozone)
- 2. 42 USC 85 VI 7671 Title 42, United States Code, Chapter 85, Subchapter VI, Section 7671 (Ozone Protection)
- 3. MCO 5090.1 Chlorofluorocarbons (CFC's) and Halons
- 4. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: PPE, power generation equipment, ECUs, distribution, maintenance equipment as required.

UNITS/PERSONNEL: Navy Medical tech support

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CHAPTER 5

CLB COLLECTIVE EVENTS

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ENG & UTIL T&R MANUAL

CHAPTER 5

CLB COLLECTIVE EVENTS

- **5000. PURPOSE.** Chapter 5 contains collective training events for the Combat Logistics Battalion (CLB).
- **5001. EVENT CODING**. Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX. This chapter utilizes the following methodology:
- a. Field one. This field represents the community. This chapter contains the following community codes:

Code	Descrip	ption	
CLB	Combat	Logistics	Battalion

b. Field two. This field represents the functional/duty area. This chapter contains the following functional/duty areas:

Code	Description
ADMN	Administration
CMOB	Countermobility
DEMO	Demolitions
EOPS	Engineer Operations
FUEL	Bulk Fuel
HEOP	Heavy Equipment Operations
HORZ	Horizontal Construction
MANT	Maintenance
MOBL	Mobility
PINF	Provisional Infantry
PLAN	Planning
RECN	Engineer Reconnaissance
SURV	Survivability
UTIL	Utilities
VERT	Vertical Construction

c. Field three. This field provides the level at which the event is accomplished and numerical sequencing of events. This chapter contains the following event levels:

<u>Code</u>	Description
6000	Company Level
5000	Platoon Level
4000	Squad Level
3000	Team Level

5002. INDEX OF COLLECTIVE EVENTS

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CLB-CMOB-6001	NO	Conduct countermobility operations	5-6
CLB-EOPS-6001	YES	Train engineer forces	5-7
CLB-EOPS-6002	YES	Conduct construction operations	5-8
CLB-MOBL-6001	NO	Conduct mobility operations	5-10
CLB-PINF-6001	NO	Provide provisional infantry	5-11
CLB-PLAN-6001	YES	Plan engineer operations	5-12
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	ı	5000-LEVEL EVENTS	1
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CLB-MOBL-5004	NO	Construct combat roads	5-25
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CLB-MOBL-5006	YES	Construct tactical landing zones	5-28
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CLB-RECN-5001	NO	Conduct engineer reconnaissance	
CLB-RECN-5002	NO	Conduct cache sweep operations	
CLB-SURV-5001	NO	Construct survivability positions	
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CLB-MOBL-4001	NO	Conduct security for clearance operations	5-50
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CED 11001 1002	140	operations	
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CLB-SURV-4001	NO	Construct field fortifications	5-71
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CLB-UTIL-4001	YES	Provide limited tactical electrical power	5-79
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CLB-UTIL-4003	NO	Provide tactical hygiene support	5-81
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CLB-RECN-3001	YES	Survey site for construction	5-116
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5003. 6000-LEVEL EVENTS

CLB-ADMN-6001: Command and control engineer forces

SUPPORTED MCT(S):

MCT 4.2.2.4 MCT 4.3.6 MCT 4.4.1.1

MCT 4.4.2.1 MCT 4.4.3.1

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 6 months

<u>DESCRIPTION</u>: Command and control engineer forces to exercise authority and direction over assigned forces, advise the Battalion Commander on the use of engineer forces, and coordinate operations with adjacent engineers.

CONDITION: Given an order and commander's intent.

STANDARD: To exercise authority and direction over assigned forces, advise

the commander on the use of engineer forces, and coordinate operations with adjacent engineers in accordance with the concept of operations.

EVENT COMPONENTS:

- 1. Establish COC.
- 2. Establish communications with higher, adjacent, supported and subordinate units.
- 3. Command assigned units.
- 4. Maintain the engineer Common Operational Picture (COP).
- 5. Direct/coordinate current engineer operations.
- 6. Initiate appropriate actions.
- 7. Track CCIRs.
- 8. Maintain status of available engineer resources.
- 9. Integrate engineer reconnaissance products into the intelligence effort.
- 10. Make recommendations to the commander.

CHAINED EVENTS:

CLB-CMOB-5001	CLB-DEMO-5001	CLB-HEOP-5001
CLB-HORZ-5001	CLB-HORZ-5002	CLB-MANT-5001
CLB-MOBL-5001	CLB-MOBL-5002	CLB-MOBL-5003
CLB-MOBL-5004	CLB-MOBL-5005	CLB-MOBL-5006
CLB-PINF-5001	CLB-RECN-5001	CLB-RECN-5002
CLB-SURV-5001	CLB-SURV-5002	CLB-SURV-5003
CLB-UTIL-5001	CLB-VERT-5001	

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17 Engineering Operations
- 3. MCWP 3-43 Command and Control
- 4. MCWP 5-1 Marine Corps Planning Process (MCPP)

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

EQUIPMENT: C4ISR assets

<u>CLB-CMOB-6001</u>: Conduct countermobility operations

SUPPORTED MCT(S): MCT 4.4.2.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: The Engineer Service Company provides a countermobility capability to meet operational requirements based on the TO/E. Conduct countermobility operations to augment natural terrain with obstacle systems that disrupt the enemy's ability to maneuver its forces. With its movement disrupted, turned, fixed or blocked, the enemy is vulnerable.

CONDITION: Given a mission, commander's intent, available resources,

location of adjacent and friendly forces, estimated locations and most recent enemy activities, weather conditions, defined area of operations, routes, rules of engagement (ROE), supporting arms plan, and references.

STANDARD: To turn, block, fix, or disrupt enemy forces in accordance with the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Conduct countermobility planning.
- 2. Integrate countermobility plan into concept of operations.
- 3. Participate in supported unit planning.
- 4. Task organize.
- 5. Complete engineering portion to orders.
- 6. Issue orders.
- 7. Construct obstacles and barriers.
- 8. Maintain obstacles and barriers.
- 9. Submit reports, as required.

CHAINED EVENTS:

CLB-CMOB-5001 CLB-HEOP-5001

REFERENCES:

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. MCWP 3-13.2 MINE WARFARE
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 5-1 Marine Corps Planning Process (MCPP)

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces

EQUIPMENT: MHE, MT assets, UT assets, Engineer carpentry kits

MATERIAL: C-Wire, engineer stakes, angle iron, concrete, lumber/timber

<u>CLB-EOPS-6001</u>: Train engineer forces

SUPPORTED MCT(S):

MCT 4.2.2.4 MCT 4.3.6 MCT 4.4.1.1

MCT 4.4.2.1 MCT 4.4.3.1

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 3 months

<u>DESCRIPTION</u>: Train engineer forces in order to sustain proficiency in mobility, countermobility, survivability, vertical and horizontal construction, bulk liquid operations, tactical electrical supply, engineer reconnaissance, as required.

<u>CONDITION</u>: Given an engineer unit, an approved Mission Essential Task List (METL), commander's training guidance, training plans, training schedules, resources and trainers.

STANDARD: To ensure that all requirements identified in the individual performance steps or collective task event components are addressed in sequence so all training evolutions achieve desired results.

EVENT COMPONENTS:

- 1. Conduct problem framing.
- 2. Identify collective training standards.
- 3. Conduct training assessments.
- 4. Determine a training strategy.
- 5. Develop a training guidance.
- 6. Develop a long range training plan.
- 7. Develop a mid-range training plan.
- 8. Develop a short-range training plan.
- 9. Develop weekly training schedules.
- 10. Develop lesson materials.
- 11. Develop training materials.
- 12. Conduct Operational Risk Assessment (ORA).
- 13. Conduct training.
- 14. Evaluate training.
- 15. Evaluate unit training plans.

CHAINED EVENTS:

CLB-DEMO-5001	CLB-HEOP-5001	CLB-HORZ-5001
CLB-HORZ-5002	CLB-MANT-5001	CLB-MOBL-5001
CLB-MOBL-5002	CLB-MOBL-5003	CLB-MOBL-5004
CLB-MOBL-5005	CLB-MOBL-5006	CLB-PINF-5001
CLB-RECN-5001	CLB-RECN-5002	CLB-SURV-5001
CLB-SURV-5002	CLB-SURV-5003	CLB-UTIL-5001
CLB-VERT-5001		

REFERENCES:

- 1. MCO 1553.3_ Unit Training Management (UTM) Program
- 2. MCRP 3-0A Unit Training Management Guide
- 3. MCRP 3-0B How to Conduct Training
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 5-1 Marine Corps Planning Process (MCPP)

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

CLB-EOPS-6002: Conduct construction operations

SUPPORTED MCT(S):

MCT 4.3.6 MCT 4.4.1.1 MCT 4.4.2.1

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 12 months

<u>DESCRIPTION</u>: The Engineer Services Company conducts limited vertical/horizontal construction and engineer equipment support. Limited

planning and execution capability within the CLB constrains the unit from undertaking multiple projects concurrently due to equipment and manpower restrictions. Limited construction includes: combat roads and trails, simple slab construction, fixed-point maintenance on selected LOCs, ECP/VCP, and wood frame structures.

CONDITION: Given a mission, commander's intent, warning and operation orders, available resources, and references.

STANDARD: To provide construction support in accordance with the commander's intent, concept of operations, and supported unit requirements.

EVENT COMPONENTS:

- 1. Provide engineer reconnaissance.
- 2. Repair and improve non-standard bridging.
- 3. Construct, maintain, or improve combat roads and trails.
- Construct, maintain, or improve vertical or short takeoff and landing sites.
- 5. Construct and maintain mission essential base camp requirements (temporary structures).
- 6. Provide technical and equipment assistance for erection of pre-engineered structures.
- 7. Provide limited tactical utilities support.
- 8. Provide limited bulk petroleum handling, storing, and dispensing services.
- 9. Develop, improve, and maintain drainage systems.
- 10. Provide technical assistance to support camouflage requirements.
- 11. Provide limited vertical and horizontal construction.
- 12. Provide limited material handling equipment support.

CHAINED EVENTS:

CLB-FUEL-3001	CLB-FUEL-3002	CLB-HEOP-5001
CLB-HORZ-5001	CLB-HORZ-5002	CLB-MANT-5001
CLB-MOBL-5003	CLB-MOBL-5004	CLB-MOBL-5005
CLB-MOBL-5006	CLB-RECN-5001	CLB-SURV-5001
CLB-SURV-5002	CLB-SURV-5003	CLB-UTIL-5001
CLB-VERT-4007	CLB-VERT-5001	

REFERENCES:

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7D Concrete and Masonry
- 3. MCRP 3-17.7F Project Management
- 4. MCRP 3-17.7I Earthmoving Operations
- 5. MCRP 3-17.7M Construction Estimating
- 6. MCRP 3-17A Engineering Field Data
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.6 Survivability
- 9. MCWP 3-17.7 General Engineering
- 10. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces

Facility Code 17931 Medium/Heavy Equipment Training Area

EQUIPMENT: Engineer earthmoving equipment, MHE, UT assets, MT assets, BF assets, refrigeration equipment

MATERIAL: Class IV

CLB-MOBL-6001: Conduct mobility operations

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Mobility enables the force commander to maneuver units into advantageous positions. The commander relies on mobility to achieve surprise, mass at the critical time, and maintain momentum. It includes, but is not limited to, breaching, route reconnaissance, improving/maintaining lines of communication and MSRs.

<u>CONDITION</u>: Given a mission, commander's intent, available resources, location of adjacent and friendly forces, estimated location and most recent enemy activities, weather conditions, defined area of operations, routes, rules of engagement (ROE), supporting arms plan, and references.

STANDARD: To provide mobility for maneuver forces in accordance with the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Conduct mobility planning.
- 2. Conduct engineer reconnaissance.
- 3. Integrate mobility plan with the concept of operations.
- 4. Participate in supported unit planning.
- 5. Complete the engineering portion of the orders.
- 6. Issue orders.
- 7. Clear mobility obstructions, within capability.
- 8. Construct and maintain combat roads and trails. (Class D only)
- 9. Submit reports, as required.

CHAINED EVENTS:

 CLB-HEOP-5001
 CLB-MOBL-5001
 CLB-MOBL-5002

 CLB-MOBL-5003
 CLB-MOBL-5004
 CLB-MOBL-5005

 CLB-MOBL-5006
 CLB-MOBL-5004
 CLB-MOBL-5005

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. UNIT SOP Unit's Standing Operating Procedures
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.4 Engineer Reconnaissance
- 8. MCWP 3-17.8 Combined Arms Mobility Operations
- 9. TM 11275-15/3_ Principal Technical Characteristics of U.S. Marine Corps

Engineer Equipment

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

EQUIPMENT: MHE, MT assets, UT assets, bridging assets, engineer carpentry

kits

MATERIAL: Concrete, fill material, lumber/timber, construction material

CLB-PINF-6001: Provide provisional infantry

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Provide provisional infantry to participate in offensive operations such as attacks, raids, and movement to contact. Defensive operations that include withdrawal, patrolling, check point ops, convoy ops, and employment of organic weapons. Additional responsibilities may include operations other than war (civil disturbance, TRAP, cordon and search) and MOUT (attack, defend, patrol, clear a building, vehicle check point).

CONDITION: Given a requirement, commander's intent and references.

STANDARD: To ensure a deployable detachment is capable of providing task organized forces to a supported unit.

EVENT COMPONENTS:

- 1. Conduct planning.
- 2. Task organize.
- 3. Issue orders.
- 4. Conduct inspections, rehearsals, and preparations.
- 5. Elements employ appropriate formations and tactics.
- 6. Conduct final preparations.
- 7. Use, coordinate, and deconflict fires.
- 8. Employ supporting arms.
- 9. Establish redundant communications.
- 10. Treat and evacuate casualties.
- 11. Process detainees.
- 12. Send and receive required reports.

CHAINED EVENTS: CLB-PINF-5001

- 1. FM 21-75 Combat Skills of the Soldier
- 2. MCDP 1 Warfighting
- 3. MCWP 3-1 Ground Combat Operations
- 4. MCWP 5-1 Marine Corps Planning Process (MCPP)

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

Facility Code 17581 Machine Gun Field Fire Range

Facility Code 17730 Fire and Movement Range

CLB-PLAN-6001: Plan engineer operations

SUPPORTED MCT(S): MCT 4.3.6

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 3 months

DESCRIPTION: Engineers will advise CLB commander on the employment of engineer assets and resources. Engineers work with the planners to maintain knowledge of future plans and their implications for engineer support. Engineer planners will identify all potential engineer requirements (e.g., mobility, countermobility, survivability, vertical and horizontal construction, bulk liquid operations, tactical electrical supply, engineer reconnaissance) during the planning process, frequently in coordination with ESB staff.

CONDITION: Given higher commander's initial guidance, battlespace area evaluation, and a warning order or operations order.

STANDARD: To identify the best use of engineer personnel and equipment in accordance with the problem framing, commander's intent, and concept of operations.

EVENT COMPONENTS:

- 1. Perform problem framing.
- 2. Develop courses of action.
- 3. War game courses of action.
- 4. Compare courses of action.
- 5. Conduct decision brief.
- 6. Develop orders.
- 7. Transition to produce operations plan or order.
- 8. Develop branches and sequels, if applicable.

RELATED EVENTS:

1302-ADMN-1002	1302-ADMN-2001	1302-CMOB-1001
1302-CMOB-1002	1302-CMOB-1003	1302-DEMO-1001
1302-DEMO-1004	1302-DEMO-2001	1302-EOPS-1005
1302-FUEL-1001	1302-HORZ-1001	1302-HORZ-1002
1302-MOBL-1001	1302-MOBL-1002	1302-MOBL-1003
1302-MOBL-1005	1302-MOBL-1007	

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17 Engineering Operations
- 3. MCWP 3-17.4 Engineer Reconnaissance

- 4. MCWP 3-17.5 Combined Arms Countermobility Operations
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-17.8 Combined Arms Mobility Operations
- 7. MCWP 5-1 Marine Corps Planning Process (MCPP

CLB-SURV-6001: Conduct survivability operations

SUPPORTED MCT(S):

MCT 4.4.1.1 MCT 4.4.2.1

EVALUATION-CODED: NO **SUSTAINMENT INTERVAL:** 12 months

<u>DESCRIPTION</u>: The Engineer Services Company provides a survivability capability to meet operational requirements based on the TO/E. Conduct survivability operations to provide survivability planning and positions for supported units. (Such as construction of field fortifications, hardening of command, communication and combat train locations, weapon system firing positions, and infantry fighting combat positions).

CONDITION: Given a mission, commander's intent, warning and operations orders and available resources and references.

STANDARD: To provide positions for supported units in accordance with the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Perform vulnerability assessment.
- 2. Conduct survivability planning.
- 3. Integrate survivability plan with the concept of operations.
- 4. Task organize.
- 5. Complete the engineering portion of the orders.
- 6. Issue orders.
- 7. Construct survivability positions.
- 8. Provide SME input to AF/FP plan, as required.
- 9. Maintain survivability positions as required.
- 10. Maintain oversight of survivability construction efforts.
- 11. Receive and submit reports as required.

CHAINED EVENTS:

CLB-SURV-5001 CLB-SURV-5002 CLB-SURV-5003 CLB-VERT-5001

RELATED EVENTS:

 1302-SURV-1001
 1302-SURV-1002
 1302-SURV-1003

 1371-SURV-1001
 1371-SURV-2001
 1371-SURV-2002

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCRP 3-17A Engineering Field Data
- 3. MCRP 3-17B Engineer Forms and Reports
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 5-1 Marine Corps Planning Process (MCPP)

SUPPORT REQUIREMENTS:

EQUIPMENT: MHE, MT assets, UT assets, Engineer carpentry kits

MATERIAL: Concrete mix, barriers, HESCO, sand bags, fill material, lumber

5004. 5000-LEVEL EVENTS

CLB-CMOB-5001: Create an obstacle group

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Position obstacle groups of two or more obstacles grouped to provide a specific obstacle effect turn, block, fix, or disrupt the enemy. Obstacles can be explosive or non-explosive in nature.

CONDITION: Given a mission, commander's intent, a map, designated area, task organized personnel and equipment and references.

STANDARD: To turn, block, fix, or disrupt the enemy and supports the commanders intent and concept of operations.

EVENT COMPONENTS:

- 1. Develop/review obstacle plan.
- 2. Analyze engagement areas, battle positions, and weapons location.
- 3. Determine possible obstacle locations and types.
- 4. Identify the commander's obstacle priorities.
- 5. Determine resources.
- 6. Determine actual work sequence.
- 7. Determine task organization required.
- 8. Determine coordination required.
- 9. Coordinate with supported unit for specific obstacle placement and observation.
- 10. Coordinate observation and reporting for decision/triggering point(s) for reserve/situational obstacles, as required.
- 11. Emplace explosive obstacle(s).
- 12. Create non-explosive obstacle(s).
- 13. Close lanes as required.
- 14. Submit required reports.

CHAINED EVENTS:

CLB-CMOB-4001	CLB-CMOB-4002	CLB-CMOB-4003
CLB-HEOP-3003	CLB-HEOP-4001	

RELATED EVENTS:

1302-CMOB-1001	1302-CMOB-1002	1302-CMOB-1003
1371-CMOB-2001	1371-CMOB-2002	

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. JP 3-15 Barriers, Obstacles, and Mine Warfare for Joint Operations

- 3. MCRP 3-17A Engineering Field Data
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3-17.5 Combined Arms Countermobility Operations
- 7. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

Facility Code 17430 Impact Area Dudded

Facility Code 17931 Medium/Heavy Equipment Training Area

EQUIPMENT: Combat Engineer equipment, Engineer Material Handling equipment

UNITS/PERSONNEL: Range Safety Officer, Corpsman

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Type/quantities of ammunition, explosives and pyrotechnics are documented with the 4000 Level Events Chained to this event.

<u>CLB-DEMO-5001</u>: Conduct demolition operations

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO **SUSTAINMENT INTERVAL:** 6 months

DESCRIPTION: Conduct demolition operations to produce the desired effect. These tasks may include placing explosives near heavy weapons, enemy munitions, destroying cave systems, facilities, equipment, and improving mobility in urban terrain and designated or reserve targets.

CONDITION: Given a tactical situation, an order, task organized equipment and personnel, specifications, and appropriate references.

STANDARD: To achieve desired effects in accordance with commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Receive demolition concept of operations.
- 2. Conduct engineer reconnaissance.
- 3. Destroy captured arms and ammunition as required.
- 4. Employ demolitions in support of mobility operations, as required.
- 5. Employ demolitions in support of survivability position construction, as required.
- 6. Employ demolitions in support of counter-mobility operations, as required.
- 7. Submit required reports.

CHAINED EVENTS:

CLB-CMOB-4003	CLB-MOBL-4011	CLB-SURV-4006
CTD-CMOD-4003	CPD-MODP-40TT	しいひっついたくこせいいひ

RELATED EVENTS:

1302-DEMO-1001	1302-DEMO-1002	1302-DEMO-1003
1302-DEMO-1004	1302-RECN-1001	1371-DEMO-2001
1371-DEMO-2002	1371-RECN-1001	1371-RECN-2001

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. JP 3-15 Barriers, Obstacles, and Mine Warfare for Joint Operations
- 4. MCRP 3-17.7D Concrete and Masonry
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.2 MAGTF Explosive Ordnance Disposal
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer demolitions kit.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Type/quantities of ammunition, explosives and pyrotechnics are documented with the 4000 Level Events Chained to this event.

<u>CLB-HEOP-5001</u>: Provide engineer equipment support

SUPPORTED MCT(S): MCT 4.3.6

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 3 months

DESCRIPTION: To support the mission utilizing the required type(s) of engineer equipment and personnel.

CONDITION: Given a mission, a support plan, equipment availability, commander's intent, personnel and equipment, an area of operations or support, and references.

STANDARD: To provide required engineer support in accordance with unit SOPs, concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Review equipment support plan.
- 2. Analyze support requirements and location(s).

- 3. Determine resources.
- 4. Determine schedule of work.
- 5. Determine task organization.
- 6. Coordinate with supported unit (location, requirements, security, ground guides, etc.).
- 7. Coordinate logistics.
- 8. Manage engineer equipment operations.
- 9. Conduct earthmoving operations, as required.
- 10. Conduct material handling operations, as required.
- 11. Conduct horizontal construction, as required.
- 12. Conduct maintenance, as required.
- 13. Recover engineer equipment, as required.
- 14. Submit required reports.

CHAINED EVENTS:

CLB-HEOP-4001	CLB-HORZ-4001	CLB-HORZ-4002
CLB-MANT-4001	CLB-MOBL-4006	CLB-MOBL-4007
CLB-MOBL-4008	CLB-MOBL-4009	CLB-MOBL-4010
RELATED EVENTS:		
1310-ADMN-2001	1310-ADMN-2002	1310-ADMN-2003
1310-ADMN-2004	1310-ADMN-2005	1310-ADMN-2006
1310-ADMN-2008	1310-ADMN-2009	1310-ADMN-2010
1310-HEOP-2001	1310-HORZ-2001	1310-HORZ-2002
1310-HORZ-2003	1310-MANT-2001	1310-MANT-2002
1341-ADMN-2001	1341-ADMN-2002	1341-ADMN-2003
1341-ADMN-2004	1341-ADMN-2005	1341-ADMN-2006
1341-ADMN-2007	1341-ADMN-2008	1349-ADMN-2001
1349-ADMN-2002	1349-ADMN-2003	1349-ADMN-2004
1349-ADMN-2005	1349-ADMN-2006	1349-ADMN-2008
1349-ADMN-2009	1349-ADMN-2010	1349-HEOP-2001
1349-HORZ-2001	1349-HORZ-2002	1349-HORZ-2003
1349-MANT-2001	1349-MANT-2002	

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 3. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 4. MCRP 3-17.7F Project Management
- 5. MCRP 3-17.7I Earthmoving Operations
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports

SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer equipment, Motor Transport equipment, Utilities equipment.

<u>UNITS/PERSONNEL</u>: Engineer equipment maintainers, Utilities equipment maintainers.

CLB-HORZ-5001: Conduct limited horizontal construction

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: To conduct horizontal construction in order to shape the terrain to meet the operational requirements of the MAGTF and includes expedient road construction and/or maintenance; expeditionary HLZs; site preparation for bed down facilities; and ordnance storage facilities.

<u>CONDITION</u>: Given a mission, commander's intent, tactical situation, task organized equipment and personnel, design specifications, construction materials and references.

STANDARD: To build the assigned project to meet or exceed the requirements listed in the design specifications, meets commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Plan horizontal construction.
- 2. Conduct engineer reconnaissance.
- 3. Conduct survey, as required.
- 4. Coordinate horizontal construction.
- 5. Conduct site preparation.
- 6. Conduct soil stabilization/dust abatement, as required.
- 7. Construct non-explosive obstacles, as required.
- 8. Employ heavy equipment assets, as required.
- 9. Submit required reports.

CLB-CMOB-4002

CLB-HORZ-4001	CLB-HORZ-4002	CLB-RECN-4001
RELATED EVENTS:		
1302-EOPS-1001	1302-EOPS-1002	1302-EOPS-1003
1302-EOPS-1009	1302-HORZ-1001	1302-HORZ-1002
1302-HORZ-1003	1302-MOBL-1016	1302-RECN-1001
1371-EOPS-2005	1371-EOPS-2006	1371-EOPS-2007
1371-HORZ-1001	1371-HORZ-1002	1371-HORZ-1003
1371-HORZ-2001	1371-HORZ-2002	1371-HORZ-2003
1371-HORZ-2004	1371-HORZ-2005	1371-RECN-1001
1371-RECN-2001		

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. FM 5-101-5-1 Operational Terrain and Symbols
- 3. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design

CLB-HEOP-4001 CLB-HORZ-3001

- 4. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 5. MCRP 3-17.7D Concrete and Masonry
- 6. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage

- 7. MCRP 3-17.7F Project Management
- 8. MCRP 3-17.7I Earthmoving Operations
- 9. MCRP 3-17A Engineering Field Data
- 10. MCWP 3-17 Engineering Operations
- 11. MCWP 3-17.4 Engineer Reconnaissance
- 12. MCWP 3-17.6 Survivability
- 13. MCWP 3-17.7 General Engineering
- 14. MCWP 3-17.8 Combined Arms Mobility Operations
- 15. MCWP 3-41.1 Rear Area Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

Facility Code 17931 Medium/Heavy Equipment Training Area

EQUIPMENT: Engineer earthmoving equipment, Engineer Material Handling

Equipment, Utilities equipment.

<u>CLB-HORZ-5002:</u> Prepare site for construction

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: This task includes all types of vertical and horizontal construction - the mission will guide actual event components during execution.

<u>CONDITION</u>: Given a mission, a support plan, a site for construction or engineer operations, commander's intent, task organized personnel, equipment and references.

STANDARD: To reduce construction time and meet design specifications in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Review construction site plan.
- 2. Analyze support requirements and location(s).
- 3. Conduct final coordination with supported unit (location, requirements, security, ground guides, etc.).
- 4. Conduct final coordination with supporting units (logistics, etc).
- 5. Move to site.
- 6. Conduct area clearance.
- 7. Conduct earthmoving operations, as required.
- 8. Conduct demolition operations, as required.
- 9. Conduct material handling operations, as required.
- 10. Employ utilities support, as required.
- 11. Submit required reports.

CHAINED EVENTS:

CLB-HEOP-4001 CLB-HORZ-4001 CLB-HORZ-4002

CLB-UTIL-4001

RELATED EVENTS: 1302-DEMO-1001 1302-DEMO-1002 1302-HORZ-1001 1302-HORZ-1003 1302-MOBL-1003 1302-HORZ-1002 1302-RECN-1001 1371-DEMO-1001 1371-DEMO-2002 1371-EOPS-2005 1371-EOPS-2006 1371-EOPS-2007 1371-HORZ-1003 1371-HORZ-1002 1371-HORZ-1001 1371-HORZ-2003 1371-HORZ-2004 1371-HORZ-2002 1371-RECN-1001 1371-RECN-2001 1371-HORZ-2005 1371-VERT-1003 1371-VERT-1001 1371-VERT-1002 1371-VERT-2001 1371-VERT-1004 1371-VERT-2002

REFERENCES:

- 1. FM 5-33 Terrain Analysis
- 2. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 3. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 4. MCRP 3-17.7F Project Management
- 5. MCRP 3-17.7I Earthmoving Operations
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance

SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer earthmoving equipment, Material Handling Equipment, Utilities equipment.

<u>CLB-MANT-5001</u>: Maintain engineer equipment

SUPPORTED MCT(S):

MCT 4.2.2.4 MCT 4.4.3.1 MCT 4.4.4.1

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 6 months

DESCRIPTION: Manage and conduct preventive and corrective maintenance on engineer equipment.

CONDITION: With equipment, tools, repair parts, supplies, personnel and references.

STANDARD: To sustain equipment in an operational status at or above unit's readiness requirements.

EVENT COMPONENTS:

- 1. Monitor Equipment Readiness.
- 2. Conduct Reconciliation.
- 3. Assign Tasks.
- 4. Maintain organic tactical engineer equipment.
- 5. Manage maintenance programs.
- 6. Submit required reports.

CHAINED EVENTS: CLB-MANT-4001

RELATED	EVENTS:	:
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1120-ADMN-2006	1120-ADMN-2007	1120-ADMN-2012
1120-ADMN-2021	1120-ADMN-2022	1120-ADMN-2041
1120-ADMN-2051	1120-ADMN-2052	1120-ADMN-2061
1120-ADMN-2065	1120-ADMN-2071	1120-ADMN-2072
1120-ADMN-2073	1120-ADMN-2074	1120-ADMN-2075
1310-ADMN-2004	1310-HEOP-2001	1310-MANT-2001
1310-MANT-2002	1316-ADMN-1001	1316-ADMN-1002
1316-ADMN-1003	1316-MANT-1002	1316-MANT-1004
1316-XENG-1001	1316-XENG-1002	1316-XENG-1004
1316-XENG-1005	1316-XENG-1006	

REFERENCES:

- 1. EMC Electric Motor Controls by American Technical Publishers, Inc.
- 2. DoDI 6055.1 DoD Safety and Occupational Health (SOH) Program
- 3. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 4. MCO 4731.1_ Oil Analysis Program for Ground Equipment
- 5. MCO 4790.18_ Corrosion Prevention and Control (CPAC) Program
- 6. MCO 4790.2_ MIMMS Field Procedures Manual
- 7. MCO 5100.29_ Marine Corps Safety Program
- 8. MCO P4733.1_ Marine Corps TMDE Calibration and Maintenance Program
- 9. MCWP 4-11.4 Maintenance Operations
- 10. SOP Standard Operating Procedures (SOP)
- 11. TM 4700-15/1_ Ground Equipment Record Procedures

SUPPORT REQUIREMENTS:

EQUIPMENT: Maintenance Contact vehicle

MATERIAL: Engineer tools, sets and kits

<u>UNITS/PERSONNEL</u>: Engineer equipment mechanics, utilities maintenance personnel, welders, equipment operators and bulk fuel personnel

OTHER SUPPORT REQUIREMENTS: POL and HAZ-MAT

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

<u>CLB-MOBL-5001</u>: Conduct obstacle breaching operations

SUPPORTED MCT(S): MCT 4.3.6

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Conduct obstacle breaching operations to breach lanes through enemy obstacles, to advance an attacking force to the far side of an obstacle that is covered by fire.

CONDITION: Given a mission, commander's intent, a map, designated area, tasked organized personnel, equipment, and references.

STANDARD: To breach lanes through enemy obstacles to support the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Gather obstacle intelligence as required.
- 2. Analyze obstacle intelligence.
- 3. Determine breach requirement.
- 4. Task organize obstacle clearing detachment(s) (OCD).
- 5. Coordinate suppression of enemy over-watching obstacle.
- 6. Coordinate obscuration of enemy over-watching obstacle.
- 7. Coordinate security for breach lanes.
- 8. Coordinate breach with assault force, support force, and support breach team(s).
- 9. Verify suppression/obscuration effects.
- 10. Breach lanes through obstacle(s).
- 11. Turnover lane(s) to designated forces.
- 12. Reconstitute the breach force.
- 13. Submit required reports.

CHAINED EVENTS:

CLB-MOBL-4001	CLB-MOBL-4002	CLB-MOBL-4003
CLB-MOBL-4004	CLB-MOBL-4005	CLB-MOBL-4006
CLB-MOBL-4011		

RELATED EVENTS:

1302-MOBL-1005	1302-RECN-1001	1371-MOBL-1003
1371-MOBL-2012	1371-MOBL-2017	1371-RECN-1001
1371-RECN-2001		

REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.3 MAGTF Breaching Operations
- 8. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410	Maneuver/Training Area, Light Forces
Facility Code 17413	Field Training Area
Facility Code 17420	Maneuver/Training Area, Heavy Forces
Facility Code 17931	Medium/Heavy Equipment Training Area

EQUIPMENT: Combat Engineer Breaching equipment, Engineer Earthmoving equipment, Engineer Material Handling equipment

UNITS/PERSONNEL: Range Safety officer, Corpsman

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Type/quantities of ammunition, explosives and pyrotechnics are documented with the 4000 Level Events Chained to this event.

CLB-MOBL-5002: Conduct breach lane improvement operations

SUPPORTED MCT(S): MCT 4.3.6

EVALUATION-CODED: NO **SUSTAINMENT INTERVAL:** 12 months

<u>DESCRIPTION</u>: As the breach force progresses, it creates two lanes in the tactical obstacles. The breach force marks lanes with the initial lanemarking pattern and passes the assault force through the lanes. At this stage of the breaching operation, the TF maintains lanes in the tactical obstacles and controls all movement of forces within the breach area.

CONDITION: Given a mission, commander's intent, a map, a breached lane marked to initial standard, tasked organized personnel, equipment, and references.

STANDARD: To improve breach lanes through enemy obstacles to support two-way traffic, the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Analyze breach lane reporting.
- 2. Determine breach lane improvement requirements.
- 3. Task organize support breach teams.
- 4. Coordinate receipt of breached lanes.
- 5. Coordinate security for breach lanes. as required.
- 6. Improve breach lanes for trafficability, as required.
- 7. Widen lanes, as required.
- 8. Mark lanes, as required.
- 9. Submit required reports.
- 10. Turnover lane(s) to designated forces.
- 11. Reconstitute the support breach team.

CHAINED EVENTS:

CLB-HEOP-4001	CLB-MOBL-4001	CLB-MOBL-4003
CLB-MOBL-4006	CLB-MOBL-4011	

RELATED EVENTS:

1302-MOBL-1004	1302-MOBL-1005	1302-MOBL-1009
1371-MOBL-1001	1371-MOBL-1003	1371-MOBL-2012
1371-MOBL-2017	1371-MOBL-2022	

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17A Engineering Field Data
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.3 MAGTF Breaching Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance

- 6. MCWP 3-17.8 Combined Arms Mobility Operations
- 7. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces

EQUIPMENT: Engineer Earthmoving equipment, Combat Engineer Breaching equipment

CLB-MOBL-5003: Construct expedient Helicopter Landing Zone (HLZ)

SUPPORTED MCT(S): MCT 4.3.6

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Conduct construction of expedient HLZ; includes but is not limited to clearing and grubbing geographical locations for takeoff and landing of rotary wing in support of troop transport, resupply, MEDEVAC operations, etc.

CONDITION: Given a mission, commander's intent, available resources, and references.

STANDARD: To create a landing site that will support rotary wing aircraft for the loading and unloading of personnel, resupply, and equipment in accordance with commander's intent, concept of operations and supported unit requirements.

EVENT COMPONENTS:

- 1. Task organize.
- 2. Conduct engineer reconnaissance.
- 3. Conduct survey.
- 4. Coordinate resource requirements.
- 5. Issue the order.
- 6. Clear landing site.
- 7. Maintain/improve landing site, as required.
- 8. Submit required reports.

CHAINED EVENTS:

CLB-HEOP-4001	CLB-HORZ-4001	CLB-MOBL-3001
CLB-MOBL-4011	CLB-RECN-4001	

RELATED EVENTS:

1302-MOBL-1016	1302-RECN-1001	1371-EOPS-1003
1371-EOPS-2008	1371-MOBL-2001	1371-RECN-1001

- 1. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 2. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the

Theater of Operations - Airfield and Heliport Design

- 3. MCRP 3-17.7F Project Management
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17420 Maneuver/Training Area, Heavy Forces Facility Code 17918 Road/Airfield Construction Training Site

EQUIPMENT: Engineer Earthmoving equipment, Engineer Material Handling

equipment

CLB-MOBL-5004: Construct combat roads

SUPPORTED MCT(S): MCT 4.3.6

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Combat roads and trails may be hastily cut pathways designed to initial standards in order to enhance mobility for only a short time (less than six months). More permanent road networks, such as MSRs and primary LOCs, are designed to temporary standards to sustain mobility for a longer period of time (up to two years). During contingency operations, nearly all roads are constructed to temporary standards. Engineers should always strive to take full advantage of existing infrastructure and natural terrain features when constructing combat trails and roads.

CONDITION: Provided a mission order, commander's intent, a tactical situation, task organized engineer equipment and personnel.

STANDARD: That meets the minimum traffic support requirements in accordance with the commanders' intent and the mobility plan.

EVENT COMPONENTS:

- 1. Review mission.
- 2. Conduct engineer reconnaissance.
- 3. Conduct survey.
- 4. Task organize.
- 5. Coordinate with supporting units.
- 6. Issue order.
- 7. Conduct site preparations, as required.
- 8. Clear the road.
- 9. Construct expedient drainage structures, as required.
- 10. Conduct expedient soil stabilization, as required.
- 11. Submit required reports.

CHAINED EVENTS:

CLB-HEOP-4001	CLB-HORZ-4001	CLB-HORZ-4002
CLB-MOBL-4006	CLB-MOBL-4009	CLB-MOBL-4010
CLB-RECN-3001	CLB-RECN-4001	

RELATED EVENTS:		
1302-HORZ-1002	1302-HORZ-1003	1302-MOBL-1001
1302-RECN-1001	1310-HEOP-2001	1310-HORZ-2001
1310-HORZ-2002	1310-HORZ-2003	1345-HEOP-1003
1345-HEOP-1006	1345-HEOP-1007	1345-HORZ-2001
1345-MANT-2001	1349-HEOP-2001	1349-HORZ-2001
1349-HORZ-2002	1349-HORZ-2003	1349-MANT-2002
1371-EOPS-2002	1371-EOPS-2003	1371-EOPS-2007
1371-EOPS-2011	1371-HORZ-2001	1371-HORZ-2002
1371-HORZ-2003	1371-RECN-1001	1371-RECN-2001

REFERENCES:

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 3. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 4. MCRP 3-17.7F Project Management
- 5. MCRP 3-17.7I Earthmoving Operations
- 6. MCRP 3-17.7L Explosives and Demolitions
- 7. MCRP 3-17A Engineering Field Data
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.8 Combined Arms Mobility Operations
- 11. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

Facility Code 17918 Road/Airfield Construction Training Site

EQUIPMENT: Engineer Material Handling Equipment, Combat engineer

equipment, Utilities equipment

UNITS/PERSONNEL: Range Safety Officer, Corpsman

CLB-MOBL-5005: Conduct area clearance operations

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO **SUSTAINMENT INTERVAL:** 12 months

CONDITION: Provided a mission, designated area with known/potential/suspected obstacle(s), personnel, engineer tools and equipment, intelligence support, demolitions tools, explosives, and references.

STANDARD: To eliminate all obstacle(s) [explosive or non-explosive] in an area to provide a secure environment for military operations in accordance with the commander's intent.

EVENT COMPONENTS:

- 1. Task organize.
- 2. Conduct engineer reconnaissance and survey.
- 3. Estimate engineer equipment requirements.
- 4. Coordinate necessary support.
- 5. Finalize clearing plan.
- 6. Issue the order.
- 7. Locate all obstacle(s).
- 8. Identify all obstacle(s).
- 9. Reduce obstacle(s).
- 10. Verify obstacle reduction.
- 11. Coordinate explosive ordnance disposal activities, as required.
- 12. Coordinate weapons intelligence team activities, as required.
- 13. Coordinate with other specialist personnel, as required.
- 14. Mark cleared area, as required.
- 15. Submit required reports.

CLB-MOBL-4001

CLB-MOBL-4001 ESB-MOBL-4003	CLB-MOBL-4002	CLB-MOBL-4003
RELATED EVENTS:		
1302-MOBL-1003	1302-MOBL-1004	1302-MOBL-1005
1302-MOBL-1009	1302-MOBL-1010	1302-RECN-1001
1371-DEMO-1001	1371-MOBL-1001	1371-MOBL-1002
1371-MOBL-1003	1371-MOBL-2012	1371-MOBL-2017
1371-MOBL-2018	1371-MOBL-2019	1371-MOBL-2020
1371-MOBL-2021	1371-MOBL-2022	1371-MOBL-2023
1371-RECN-1001	1371-RECN-2001	

REFERENCES:

- 1. FM 5-101-5-1 Operational Terrain and Symbols
- 2. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 3. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 4. MCRP 3-17.2D Explosive Hazard Operations
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 3-13.2 MINE WARFARE
- 9. MCWP 3-17 Engineering Operations
- 10. MCWP 3-17.3 MAGTF Breaching Operations
- 11. MCWP 3-17.4 Engineer Reconnaissance
- 12. MCWP 3-17.8 Combined Arms Mobility Operations
- 13. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 14. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer equipment

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Type/quantities of ammunition, explosives and pyrotechnics are documented with the 4000 Level Events Chained to this event.

CLB-MOBL-5006: Construct tactical landing zones

SUPPORTED MCT(S): MCT 4.3.6

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Conduct construction of tactical landing zones; includes but is not limited to site selection, construction, repair, and maintenance of existing or expeditionary airfields, landing zones, and other facilities for takeoff and landing of fixed and rotary wing aircraft in support of MAGTF operations

CONDITION: Given a mission, commander's intent, available resources, and references.

STANDARD: To create, repair, and maintain tactical landing zones that meet or exceed landing zone requirements listed in the design specifications in accordance with the size, type, number of aircraft and concept of operations.

EVENT COMPONENTS:

- 1. Task organize.
- 2. Conduct engineer reconnaissance.
- 3. Conduct survey.
- 4. Estimate engineer equipment requirements.
- 5. Coordinate necessary support.
- 6. Finalize construction plan.
- 7. Issue the order.
- 8. Construct/repair airfield, landing zone, or other facilities, as required.

CLB-HORZ-4002

- 9. Maintain and improve airfield, landing zone, or other facilities, as required.
- 10. Submit required reports.

CLB-HEOP-4001

CLB-MOBL-4006 CLB-MOBL-4009	CLB-MOBL-4007 CLB-MOBL-4010	CLB-MOBL-4008 CLB-RECN-4001
RELATED EVENTS:		
1302-EOPS-1009	1302-HORZ-1001	1302-MOBL-1016
1302-RECN-1001	1310-HEOP-2001	1310-HORZ-2001
1310-HORZ-2002	1310-HORZ-2003	1310-MANT-2002
1345-HORZ-2001	1349-HEOP-2001	1349-HORZ-2002
1349-HORZ-2003	1349-MANT-2002	1371-EOPS-2007
1371-EOPS-2011	1371-MOBL-2001	1371-RECN-1001
1371-RECN-2001		

CLB-HORZ-4001

- 1. MCRP 3-17.2D Explosive Hazard Operations
- 2. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 3. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCRP 4-11.3E Multi-service Helicopter Sling Load: Vols I, II and III
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.8 Combined Arms Mobility Operations

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces
Facility Code 17918 Road/Airfield Construction Training Site

CLB-PINF-5001: Fight as provisional infantry

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Provide provisional infantry to participate in offensive operations such as attacks, raids, movement to contact, etc. Defensive operations that include withdrawal, patrolling, check point ops, convoy ops, and employment of organic weapons. Additional responsibilities may include operations other than war (civil disturbance, TRAP, cordon and search) and MOUT (attack, defend, patrol, clear a building, vehicle check point).

CONDITION: Given a requirement, commander's intent and references.

STANDARD: To augment supported unit or conduct offensive and defensive operations to support mission requirements.

EVENT COMPONENTS:

- 1. Conduct planning.
- 2. Task organize.
- 3. Issue orders.
- 4. Conduct inspections, rehearsals, and preparations.
- 5. Elements employ appropriate formations and tactics.
- 6. Conduct final preparations.
- 7. Use, coordinate, and observe fires.
- 8. Employ supporting arms, as required.
- 9. Establish redundant communications.
- 10. Treat and evacuate casualties, as required.
- 11. Process detainees, as required.

12. Send and receive required reports.

CHAINED EVENTS: CLB-PINF-4001

REFERENCES:

- 1. MCDP 1 Warfighting
- 2. MCDP 1-3 Tactics
- 3. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 4. MCRP 3-02G First Aid
- 5. MCWP 3-11.2 Marine Rifle Squad

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17730 Fire and Movement Range

CLB-RECN-5001: Conduct engineer reconnaissance

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct engineer reconnaissance to collect data and obtain detailed information, within/along designated routes, zones, and/or areas that provides the MAGTF information on terrain and infrastructure (e.g., built-up areas, transportation networks, utilities and existing natural or manmade obstacles/resources) necessary to support ongoing or future operations.

CONDITION: Given a mission, commander's intent, task organization of personnel and equipment, and references.

STANDARD: To gather all relevant engineer data and produce an engineer estimate in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Review reconnaissance plan.
- 2. Analyze support requirements and location(s).
- 3. Conduct final coordination with supported unit (location, requirements, security, ground guides, etc.).
- 4. Conduct final coordination with supporting units (logistics, etc).
- 5. Conduct zone reconnaissance as required.
- 6. Conduct area reconnaissance as required.
- 7. Conduct route reconnaissance as required.
- 8. Conduct host-nation infrastructure assessment as required.
- 9. Submit required reports.

CHAINED EVENTS:

CLB-RECN-4001 CLB-RECN-4002 CLB-RECN-4003 CLB-RECN-4005

RELATED EVENTS:

1302-RECN-1001 1371-RECN-1001 1371-RECN-2001

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 3. MCRP 3-17A Engineering Field Data
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance
- 7. MCWP 3-17.8 Combined Arms Mobility Operations

CLB-RECN-5002: Conduct cache sweep operations

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct cache sweep operations in order to detect, identify and secure materials (documents, discs, tapes, weapons, explosives, ammunition, chemical materials, bombs, electronic equipment, etc.). Appropriate safety and evidentiary preservation measures should be employed during cache sweeps.

<u>CONDITION</u>: Provided a mission, designated area/building to search for known, potential, or suspected materials that may be used against friendly forces or be of intelligence value.

STANDARD: To detect, identify, and secure materials discovered during the course of the search in accordance with the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Analyze search area intelligence.
- 2. Task organize.
- 3. Coordinate with supported unit.
- 4. Coordinate with supporting units.
- 5. Detect cache within search area.
- 6. Identify items within cache(s).
- 7. Mark cache(s), as required.
- 8. Destroy captured enemy ammunition, as required.
- 9. Verify cache destruction.
- 10. Coordinate explosive ordnance disposal activities, as required.
- 11. Coordinate weapons intelligence team activities, as required.
- 12. Coordinate with other specialist personnel, as required.
- 13. Document/preserve evidence, as required.
- 14. Submit required reports.

CHAINED EVENTS: CLB-RECN-4002

RELATED EVENTS:

1302-DEMO-1004	1302-MOBL-1002	1302-MOBL-1003
1302-MOBL-1009	1371-MOBL-1002	1371-MOBL-1003
1371-MOBL-2018	1371-MOBL-2020	1371-MOBL-2021
1371-MOBL-2022		

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.4 Engineer Reconnaissance

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer tools and kits.

<u>UNITS/PERSONNEL</u>: Explosive ordnance disposal personnel, Weapons Intelligence Team, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Type/quantities of ammunition, explosives and pyrotechnics are documented with the 4000 Level Events Chained to this event.

<u>CLB-SURV-5001</u>: Construct survivability positions

SUPPORTED MCT(S):

MCT 4.4.1.1 MCT 4.4.2.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: To construct positions designed to reduce the vulnerability of personnel, equipment, weapons, and supplies to enemy fire and as a means to enhance force protection. Positions may include fighting and protective positions.

CONDITION: Provided a mission, commander's intent, reconnaissance reports, survivability plan, a task organization of personnel and equipment, and references.

STANDARD: That meets the mission requirements in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Plan survivability construction.
- 2. Analyze engagement areas, battle positions, and weapons location.
- 3. Conduct engineer reconnaissance and survey.
- 4. Coordinate with supported unit for specific position placement and requirements.
- 5. Coordinate resources for project.
- 6. Conduct site preparation.
- 7. Harden existing structure(s), as required.

- 8. Emplace pre-fabricated barriers, as required.
- 9. Construct field fortification, as required.
- 10. Construct Vehicle Control Point (VCP) as required.
- 11. Construct Entry Control Point (ECP), as required.
- 12. Construct earth filled barrier/structure, as required.
- 13. Construct individual fighting positions, as required.
- 14. Construct vehicle fighting positions, as required.
- 15. Construct vehicle survivability positions, as required.
- 16. Construct revetment, as required.
- 17. Construct crew-served weapon positions, as required.
- 18. Construct overhead cover, as required.
- 19. Construct shelter/bunker, as required.
- 20. Construct berms, as required.
- 21. Conduct earth moving operations, as required.
- 22. Construct triggering screen, as required.
- 23. Construct trench, as required.
- 24. Wire position for electricity, as required.
- 25. Submit required reports.

CHAINED EVENTS:

CLB-HEOP-4001	CLB-SURV-3001	CLB-SURV-3002
CLB-SURV-3003	CLB-SURV-3004	CLB-SURV-3005
CLB-SURV-3006	CLB-SURV-3007	CLB-SURV-3008
CLB-SURV-4001	CLB-SURV-4002	CLB-SURV-4003
CLB-SURV-4004	CLB-SURV-4005	CLB-SURV-4006

REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17.7K Theater of Operations Electrical Systems
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.4 Engineer Reconnaissance
- 9. MCWP 3-17.6 Survivability
- 10. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 11. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 12. MCWP 3-35.5 Jungle Operations
- 13. MCWP 3-35.6 Desert Operations
- 14. MCWP 3-41.1 Rear Area Operations
- 15. MCWP 4-11 Tactical-Level Logistics

SUPPORT REQUIREMENTS:

EQUIPMENT: Combat engineer equipment, Engineer earthmoving equipment, Material Handling Equipment, Utilities equipment

MATERIAL: Map, Compass, Protractor, Overlay sheets, Reconnaissance reports

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

CLB-SURV-5002: Harden existing structure

SUPPORTED MCT(S):

MCT 4.4.1.1 MCT 4.4.2.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: To harden positions in order to reduce the vulnerability of personnel, equipment, weapons, and supplies to enemy fire and as a means to enhance force protection.

CONDITION: Provided a mission, in an urban environment, commander's intent, reconnaissance reports, and survivability plan, a task organization of personnel and equipment, and references.

STANDARD: To harden an existing structure that meets the mission requirements and supports the concept of operations in accordance with the commander's intent.

EVENT COMPONENTS:

- 1. Plan structure hardening.
- 2. Conduct engineer reconnaissance and survey.
- 3. Analyze reconnaissance reports.
- 4. Coordinate with supported unit for specific position requirements.
- 5. Coordinate resources for project.
- 6. Conduct site preparation.
- 7. Construct perimeter security, as required.
- 8. Shore walls/ floors/ roofs, as required.
- 9. Remove/ reinforce windows, as required.
- 10. Compartmentalize interior of structure, as required.
- 11. Emplace prefabricated barriers, as required.
- 12. Construct earth filled barrier/structure, as required.
- 13. Conduct earthmoving operations, as required.
- 14. Construct overhead cover, as required.
- 15. Construct shelter/bunker, as required.
- 16. Construct triggering screen, as required.
- 17. Wire position for electricity, as required.
- 18. Submit required reports.

CHAINED EVENTS:

CHAINED EVENIS:		
CLB-HEOP-3003	CLB-HEOP-4001	CLB-RECN-4001
CLB-RECN-5001	CLB-SURV-3002	CLB-SURV-3005
CLB-SURV-3007	CLB-SURV-4001	CLB-SURV-4002
CLB-SURV-4005	CLB-SURV-4006	CLB-UTIL-4001
CLB-VERT-4001	CLB-VERT-4002	CLB-VERT-4003
CLB-VERT-4004	CLB-VERT-4005	CLB-VERT-4006
CLB-VERT-4007		

REFERENCES:

- 1. MCRP 3-17.7K Theater of Operations Electrical Systems
- 2. MCRP 3-17A Engineering Field Data
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.4 Engineer Reconnaissance
- 5. MCWP 3-17.5 Combined Arms Countermobility Operations

- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-17.7 General Engineering
- 8. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 9. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Engineer earthmoving equipment, Combat engineer tools & kits, Utilities equipment

<u>CLB-SURV-5003</u>: Construct field fortifications

SUPPORTED MCT(S):

MCT 4.4.1.1 MCT 4.4.2.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: To build field fortifications that reduce the vulnerability of personnel, equipment, weapons, and supplies to enemy fire, increase effectiveness of friendly weapons, and as a means to enhance force protection.

CONDITION: Provided a mission, commander's intent, reconnaissance reports, task organized personnel and equipment, and references.

STANDARD: That meets the mission requirements and supports the concept of operations in accordance with the commander's intent.

EVENT COMPONENTS:

- 1. Plan survivability construction.
- 2. Analyze engagement areas, battle positions, and weapons location.
- 3. Conduct engineer reconnaissance and survey.
- 4. Coordinate with supported unit for specific position placement and requirements.
- 5. Construct survivability positions, as required.
- 6. Construct obstacles, as required.
- 7. Conduct vertical construction, as required.
- 8. Conduct earthmoving operations, as required.
- 9. Submit required reports.

CHAINED EVENTS:

CLB-CMOB-4001	CLB-CMOB-4002	CLB-HEOP-3003
CLB-HEOP-4001	CLB-RECN-4001	CLB-RECN-5001
CLB-SURV-4002	CLB-SURV-4003	CLB-SURV-4004
CLB-SURV-4005	CLB-VERT-4001	CLB-VERT-4002
CLB-VERT-4003	CLB-VERT-4004	CLB-VERT-4005
CLB-VERT-4006	CLB-VERT-4007	

REFERENCES:

1. MCRP 3-17.6A Camouflage, Concealment, and Decoys

- 2. MCRP 3-17.7C Carpentry
- 3. MCRP 3-17.7D Concrete and Masonry
- 4. MCRP 3-17.7I Earthmoving Operations
- 5. MCRP 3-17A Engineering Field Data
- 6. MCWP 3-17.4 Engineer Reconnaissance
- 7. MCWP 3-17.5 Combined Arms Countermobility Operations
- 8. MCWP 3-17.6 Survivability
- 9. MCWP 3-17.7 General Engineering
- 10. MCWP 3-17.8 Combined Arms Mobility Operations
- 11. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 12. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Engineer Earthmoving equipment, Combat engineer tools & kits

CLB-UTIL-5001: Provide limited utilities support

SUPPORTED MCT(S):

MCT 4.2.2.4 MCT 4.4.3.1 MCT 4.4.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Provide limited tactical electrical supply and distribution; heating, ventilation, air conditioning and refrigeration service; water production/storage/distribution; and maintenance capabilities for specified utilities equipment in accordance with the unit's mission statement.

CONDITION: Given a mission, support plan, equipment availability, personnel, equipment, and references.

STANDARD: To provide support IAW with the concept of operations and in accordance with commander's intent.

EVENT COMPONENTS:

- 1. Coordinate supported unit requirements.
- 2. Establish utilities plan.
- Establish utilities site(s).
- 4. Provide tactical electrical support, as required.
- 5. Provide non-tactical utilities support, as required.
- 6. Provide environmental control equipment.
- 7. Provide refrigeration equipment.
- 8. Provide water production/storage/distribution equipment.
- 9. Maintain utilities equipment.
- 10. Recover utilities equipment, as required.
- 11. Submit required reports.

CHAINED EVENTS:

CLB-MANT-4001 CLB-UTIL-4001 CLB-UTIL-4002 CLB-UTIL-4003

RELATED EVENTS:		
1120-ADMN-2001	1120-ADMN-2002	1120-ADMN-2003
1120-ADMN-2004	1120-ADMN-2005	1120-ADMN-2006
1120-ADMN-2007	1120-ADMN-2012	1120-ADMN-2021
1120-ADMN-2022	1120-ADMN-2031	1120-ADMN-2051
1120-ADMN-2052	1120-ADMN-2061	1120-ADMN-2065
1120-ADMN-2071	1120-ADMN-2072	1120-ADMN-2073
1120-ADMN-2074	1120-ADMN-2075	1120-ADMN-2081
1120-ADMN-2091	1120-ADMN-2092	1120-XENG-2501
1120-XENG-2502	1120-XENG-2521	1120-XENG-2522
1120-XENG-2541	1120-XENG-2553	1120-XENG-2555
1120-XENG-2558	1120-XENG-2561	1120-XENG-2581
1120-XENG-2621	1120-XENG-2622	1120-XENG-2641
1120-XENG-2653	1120-XENG-2655	1120-XENG-2658
1120-XENG-2721	1120-XENG-2741	1120-XENG-2752
1120-XENG-2753	1120-XENG-2755	1120-XENG-2758
1120-XENG-2821	1120-XENG-2841	1120-XENG-2853
1120-XENG-2855	1120-XENG-2858	1120-XENG-2965
1120-XENG-2966	1120-XENG-2988	1120-XENG-2989

- 1. Appropriate Technical Manuals
- 2. NAVMED P-5010-5 Manual of Preventive Medicine, Chapter 5, Water Supply Ashore (Nov 90)
- 3. 29 CFR 1910.147 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 147 Control of Hazardous Energy (Lockout/Tagout)
- 4. 29 CFR 1910.269 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 269 Electrical Power Generation, Transmission, and Distribution
- 5. 29 CFR 1910.301-399 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Subpart S, (Standard Numbers 301-399) Electrical
- 6. 40 CFR 82 Chapter 40, Code of Federal Regulations, Part Number 82 (Protection of Stratospheric Ozone)
- 7. 42 USC 85 VI 7671 Title 42, United States Code, Chapter 85, Subchapter VI, Section 7671 (Ozone Protection)
- 8. FM 10-52 Water Supply in Theaters of Operation
- 9. FM 10-52-1 Water Supply Point Equipment and Operations
- 10. FM 5-424 Theater of Operations Electrical Systems
- 11. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 12. MCO 5090.1 Chlorofluorocarbons (CFC's) and Halons
- 13. MCRP 3-17B Engineer Forms and Reports
- 14. MCRP 4-11.1D Field Hygiene and Sanitation
- 15. MCRP 4-11B Environmental Considerations
- 16. MCWP 3-17 Engineering Operations
- 17. MCWP 3-17.4 Engineer Reconnaissance
- 18. MCWP 4-11 Tactical-Level Logistics
- 19. MCWP 4-11.4 Maintenance Operations
- 20. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 21. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 22. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 23. TB MED 577 Occupational and Environmental Health Sanitary Control and

- Surveillance of Field Water Supplies
- 24. TB MED 593 Guidelines for Field Waste Management
- 25. TC 3-34.489 The Soldier and the Environment
- 26. TM 11275-15/3_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 27. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Utilities equipment, Engineer Material Handling Equipment, Motor Transport equipment, HAZMAT handling equipment.

CLB-VERT-5001: Conduct limited vertical construction

SUPPORTED MCT(S): MCT 4.4.2.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Conduct limited vertical construction to build or improve existing structures, or construct base camps, command posts, and maintenance facilities for the GCE and CLB.

CONDITION: Given a mission, commander's intent, tactical situation, task organized equipment and personnel, design specifications, construction materials and appropriate references.

STANDARD: To build and/or improve facilities that meet the minimum requirements listed in the design specifications in accordance with the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Plan vertical construction.
- 2. Conduct engineer reconnaissance.
- 3. Conduct survey as required.
- 4. Coordinate resources for project.
- 5. Conduct site preparation.
- 6. Repair facility, as required.
- 7. Erect prefabricated structure, as required.
- 8. Construct wood frame structure, as required
- 9. Construct timber structure, as required.
- 10. Construct concrete structure as required.
- 11. Construct expedient drainage structure, as required.
- 12. Wire structure for electricity, as required.
- 13. Plumb structure, as required.
- 14. Submit required reports.

CHAINED EVENTS:

CLB-HEOP-4001 CLB-HORZ-4002 CLB-RECN-4001 CLB-UTIL-4001 CLB-UTIL-4002

CLB-VERT-4001 CLB-VERT-4004 CLB-VERT-4007	CLB-VERT-4002 CLB-VERT-4005	CLB-VERT-4003 CLB-VERT-4006
RELATED EVENTS:		
1302-HORZ-1001	1302-RECN-1001	1302-VERT-1001
1371-EOPS-2005	1371-EOPS-2006	1371-EOPS-2007
1371-EOPS-2010	1371-EOPS-2011	1371-HORZ-2002
1371-HORZ-2003	1371-HORZ-2004	1371-HORZ-2005
1371-RECN-1001	1371-VERT-1001	1371-VERT-1002
1371-VERT-1003	1371-VERT-1004	1371-VERT-1005
1371-VERT-2001	1371-VERT-2002	

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. GTA 5-7-13 Bridge Classification Booklet
- 3. GTA 5-7-6 Bridge Design Card
- 4. JP 3-15 Barriers, Obstacles, and Mine Warfare for Joint Operations
- 5. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 6. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 7. MCRP 3-17.7C Carpentry
- 8. MCRP 3-17.7D Concrete and Masonry
- 9. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 10. MCRP 3-17.7F Project Management
- 11. MCRP 3-17.7I Earthmoving Operations
- 12. MCRP 3-17.7K Theater of Operations Electrical Systems
- 13. MCRP 3-17.7M Construction Estimating
- 14. MCRP 3-17.7N Base Camps
- 15. MCRP 3-17A Engineering Field Data
- 16. MCRP 4-11.1D Field Hygiene and Sanitation
- 17. MCWP 3-17 Engineering Operations
- 18. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 19. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 20. MCWP 4-11 Tactical-Level Logistics
- 21. TM 5-232 Elements of Construction Surveying

SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer Earthmoving equipment, Material Handling equipment, Motor Transportation equipment, UT equipment, surveying assets, engineer carpentry kits

MATERIAL: Class III/IV

UNITS/PERSONNEL: MT, UT, & HE operators, Engineers, Surveyors

5005. 4000-LEVEL EVENTS

CLB-CMOB-4001: Create an explosive obstacle

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Create an explosive obstacle to turn, block, fix, or disrupt enemy movement or maneuver of personnel or equipment.

<u>CONDITION</u>: Given a mission, commander's intent, location to emplace the obstacle, task organized personnel and equipment, and resources (Class IV, V, etc.).

STANDARD: That is part of an obstacle group, intended to turn, block, fix, or disrupts enemy personnel or equipment in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Analyze obstacle plan.
- 2. Analyze engagement areas, battle positions, and weapons location.
- 3. Determine actual work sequence.
- 4. Finalize coordination with supported unit for specific obstacle placement and observation.
- 5. Coordinate overwatch/ security for obstacle construction.
- 6. Move to obstacle site.
- 7. Emplace expedient anti-personnel devices as required.
- 8. Account for all personnel and equipment prior to returning to friendly lines.
- 9. Coordinate lane closure plan with supported unit, as required.
- 10. Submit required reports.

CHAINED EVENTS:

CLB-CMOB-3001 CLB-CMOB-3003

RELATED EVENTS:

1302-CMOB-1001	1302-CMOB-1002	1310-ADMN-2002
1310-ADMN-2006	1310-ADMN-2009	1310-ADMN-2010
1310-HEOP-2001	1310-MANT-2002	1345-ADMN-1002
1345-ADMN-2002	1345-HEOP-1003	1345-HEOP-1004
1345-HEOP-1005	1345-HEOP-1006	1345-HEOP-2009
1345-MANT-1001	1349-ADMN-2002	1349-ADMN-2006
1349-ADMN-2009	1349-ADMN-2010	1349-HEOP-2001
1349-MANT-2002	1371-CMOB-1003	1371-CMOB-2001
1371-CMOB-2003	1371-DEMO-1002	

REFERENCES:

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. UNIT SOP Unit's Standing Operating Procedures
- 3. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 4. MCRP 3-17.2D Explosive Hazard Operations
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.8 Combined Arms Mobility Operations
- 11. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

SUPPORT REQUIREMENTS:

ORDNANCE:

Quantity
1 mines per squad
4 flares per squad
4 Simulator per squad
10 charges per squad
1 charges per squad
10 blasting caps per squad
20 blasting caps per squad
1 charges per squad
1 charges per squad
1500 FT per squad
10 charges per squad
500 FT per squad
2 charges per squad
2 primers per squad
35 igniters per squad

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RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17730 Fire and Movement Range Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer equipment, Material Handling Equipment.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event.

CLB-CMOB-4002: Create non-explosive obstacles/barriers

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO **SUSTAINMENT INTERVAL:** 6 months

<u>DESCRIPTION</u>: Create non-explosive obstacles/barriers to turn, block, fix, or disrupt enemy movement or maneuver of personnel or equipment.

<u>CONDITION</u>: Given a mission, commander's intent, location to emplace the obstacle, task organized personnel and equipment, and resources (Class IV, natural terrain, battlefield materials, etc.).

<u>STANDARD</u>: That is part of an obstacle group that will turn, block, fix, or disrupts enemy personnel or equipment in accordance with the concept of operations and commander's intent.

EVENT COMPONENTS:

- 1. Analyze obstacle plan.
- 2. Analyze engagement areas, battle positions, and weapons location.
- 3. Determine actual work sequence.
- 4. Finalize coordination with supported unit for specific obstacle placement and observation.
- 5. Coordinate overwatch/ security for obstacle construction.
- 6. Move to obstacle site.
- 7. Tie obstacles into natural/existing obstacles, as required
- 8. Emplace obstacles (barriers, hedgehogs, etc.), as required.
- 9. Emplace wire obstacles, as required.
- Emplace field expedient obstacles (logs, abatis, rubble, etc.), as required.
- 11. Create craters, as required.
- 12. Emplace deception obstacles, as required.
- 13. Create tank ditches, as required.
- 14. Account for all personnel and equipment prior to returning to friendly lines.
- 15. Coordinate lane closure plan with supported unit, as required.
- 16. Submit required reports.

CHAINED	EVENTS:

CLB-CMOB-3001 CLB-HEOP-3003	CLB-CMOB-3002	CLB-CMOB-3003
RELATED EVENTS:		
1302-CMOB-1001	1302-CMOB-1002	1310-HEOP-2001
1310-HORZ-2001	1310-HORZ-2002	1310-MANT-2002
1316-ADMN-1001	1316-ADMN-1002	1316-ADMN-2001
1316-ADMN-2002	1316-XENG-1001	1316-XENG-1006
1316-XENG-2002	1345-HEOP-1003	1345-HEOP-1004
1345-HEOP-1006	1345-HEOP-2007	1345-HEOP-2009
1345-HORZ-2001	1349-HEOP-2001	1349-HORZ-2001
1349-HORZ-2002	1349-MANT-2002	1371-CMOB-1001

1371-CMOB-2003

REFERENCES:

1371-CMOB-2001

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 3. MCRP 3-17A Engineering Field Data
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 7. Unit SOP Unit's Standing Operating Procedures

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
L495 Flare, Surface Trip M49 Series	6 flares per squad
M032 Charge, Demolition Block TNT 1-Pound	12 charges per squad
M039 Charge, Demolition Cratering 40-Poun	12 charges per squad
M130 Cap, Blasting Electric M6	12 blasting caps per squad
M131 Cap, Blasting Non-Electric M7	12 blasting caps per squad

M327 Coupling Base, Firing Device with Pr 12 primers per squad M421 Charge, Demolition Shaped M3 Series 8 charges per squad M456 Cord, Detonating PETN Type I Class E 1000 FT per squad M591 Dynamite, Military M1 10 charges per squad M670 Fuse, Blasting Time M700 500 FT per squad M757 Charge, Assembly Demolition M183 Com 6 cases per squad ML03 Firing Device, Demolition Multi-Purp 12 detonators per squad MN08 Igniter, Time Blasting Fuse with Sho 12 igniters per squad MN14 Firing Device, Dual Mode MK54 12 detonators per squad MN52 MK154 Mod 0 8 detonators per squad

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17730 Fire and Movement Range Facility Code 17931 Medium/Heavy Equipment Training Area

EQUIPMENT: Combat engineer equipment, Material Handling Equipment, Engineer earthmoving equipment.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

<u>CLB-CMOB-4003</u>: Employ demolitions in support of countermobility operations

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Employ demolitions in support of countermobility operations to create mobility obstacles (explosively) such as craters, ditches or to destroy structures (bridges, tunnels, etc.). This could include field expedient explosive obstacles (improvised anti-vehicular/anti-personnel explosive devices) to destroy enemy personnel and equipment.

STANDARD: To construct countermobility obstacles at designated areas/routes to fix, delay, disrupt enemy vehicles and personnel per commander's intent, concept of operations, and mission requirement.

EVENT COMPONENTS:

- 1. Review the mission.
- Coordinate with supporting unit(s).
- 3. Conduct final coordination with supported unit (location, requirements, security, etc.) as required.
- 4. Prepare equipment and materials for operation.

- 5. Move to obstacle sites(s).
- 6. Setup security.
- 7. Prepare charges.
- 8. Place charges.
- 9. Create obstacle(s) as required.
- 10. Inspect obstacle(s) as required.
- 11. Improve obstacle site with support equipment as required.
- 12. Reconstitute the force.
- 13. Submit required reports.

CHAINED EVENTS:

CLB-CMOB-3003 CLB-MOBL-3001

RELATED EVENTS:

KETAIED FAEMIS:		
1302-CMOB-1001	1302-CMOB-1002	1310-ADMN-2002
1310-ADMN-2006	1310-ADMN-2009	1310-ADMN-2010
1310-HEOP-2001	1310-MANT-2002	1345-ADMN-1002
1345-ADMN-2002	1345-HEOP-1003	1345-HEOP-1004
1345-HEOP-1005	1345-HEOP-1006	1345-HEOP-2009
1345-MANT-1001	1349-ADMN-2002	1349-ADMN-2006
1349-ADMN-2009	1349-ADMN-2010	1349-HEOP-2001
1349-MANT-2002	1371-CMOB-1003	1371-CMOB-2001
1371-CMOB-2003	1371-DEMO-1002	

REFERENCES:

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	Quantity
M023 Charge, Demolition Block M112 1-1/4	20 charges per squad
M032 Charge, Demolition Block TNT 1-Pound	10 charges per squad
M039 Charge, Demolition Cratering 40-Poun	10 charges per squad
M130 Cap, Blasting Electric M6	6 blasting caps per squad
M131 Cap, Blasting Non-Electric M7	6 blasting caps per squad
M420 Charge, Demolition Shaped M2 Series	5 charges per squad
M421 Charge, Demolition Shaped M3 Series	10 charges per squad
M456 Cord, Detonating PETN Type I Class E	1000 FT per squad
M591 Dynamite, Military M1	10 charges per squad
M670 Fuse, Blasting Time M700	500 FT per squad
ML03 Firing Device, Demolition Multi-Purp	6 igniters per squad
MN08 Igniter, Time Blasting Fuse with Sho	6 igniters per squad

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: Engineer Material Handling equipment, Combat engineer Demolitions kit

UNITS/PERSONNEL: Range Safety Officer, Corpsman

MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CLB-HEOP-4001: Conduct MHE operations

SUPPORTED MCT(S): MCT 4.3.6

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: MHE refers to material handling equipment (forklifts, etc.) to enable handling of loads (equipment, supplies, materials, etc.) exceeding carrying capacity of personnel.

CONDITION: Given a mission, commander's intent, personnel and equipment, and references.

STANDARD: To provide support an IAW unit SOPs or guidance to support the concept of operations and in accordance with commander's intent.

EVENT COMPONENTS:

- 1. Review tasking.
- 2. Coordinate with supported unit (location, requirements, security, ground guides, etc.).

CLB-HEOP-3003

- 3. Operate MHE as required.
- 4. Load and unload materiel(s) as required.
- 5. Employ safety measures as required.
- 6. Submit required reports.

CLB-HEOP-3001

CLB-MANT-3001	
1310-HORZ-2001	1310-HORZ-2002
1345-HEOP-2012	1345-HORZ-2001
1349-HEOP-2001	1349-HORZ-2001
	1310-HORZ-2001 1345-HEOP-2012

CLB-HEOP-3002

REFERENCES:

- 1. MCRP 3-17B Engineer Forms and Reports
- 2. MCWP 3-41.1 Rear Area Operations
- 3. MCWP 4-11 Tactical-Level Logistics

1349-HORZ-2002 1349-HORZ-2003

4. MCWP 4-11.4 Maintenance Operations

SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer Material Handling equipment, Engineer support

CLB-HORZ-4001: Conduct horizontal construction

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 3 months

<u>DESCRIPTION</u>: To conduct horizontal construction as required to shape the terrain to meet the operational requirements of the MAGTF and includes MSR construction and/or maintenance; expeditionary airfields; site preparation for bed down facilities; and ordnance storage facilities.

CONDITION: Given a mission, commander's intent, tactical situation, a map, task organized equipment and personnel, design specifications, construction materials and references

STANDARD: To construct the assigned project to meet or exceed the requirements listed in the design specifications in accordance with the commander's intent and concept of operations.

EVENT COMPONENTS:

- 1. Review horizontal construction plans.
- 2. Review engineer reconnaissance and survey.
- 3. Coordinate support for horizontal construction.
- 4. Operate/employ engineer equipment and kits.
- 5. Clear site for construction.
- 6. Conduct beachhead lane improvement, as required.
- 7. Construct base course for road(s), as required.
- 8. Emplace soil stabilization, as required.
- 9. Conduct ditching for roads, as required.
- 10. Emplace road surface, as required
- 11. Construct expedient HLZ, as required.
- 12. Emplace dust abatement material, as required.
- 13. Construct expedient HLZ, as required.
- 14. Construct drainage structures, as required.
- 15. Construct expeditionary airfield, as required.
- 16. Submit required reports.

CHAINED EVENTS:

CLB-HEOP-3002 CLB-HEOP-3003

RELATED EVENTS:

KETHIED EAGNID:		
1302-EOPS-1001	1302-EOPS-1003	1302-EOPS-1007
1302-EOPS-1009	1302-HORZ-1001	1302-HORZ-1002
1302-HORZ-1003	1302-MOBL-1016	1345-ADMN-2001
1345-ADMN-2002	1345-HEOP-2004	1345-HEOP-2009
1345-HEOP-2012	1345-HORZ-2001	1345-MANT-2001
1345-MANT-2003	1345-MANT-2004	1361-DRAF-1001
1361-DRAF-1002	1361-SRVY-1001	1361-SRVY-1002
1361-SRVY-1003	1361-SRVY-1004	1361-SRVY-1005
1361-SRVY-1006	1361-SRVY-1008	1361-SRVY-1009
1361-SRVY-1010	1361-SRVY-1011	1361-SRVY-1012

1361-SRVY-2001	1361-SRVY-2002	1361-SRVY-2005
1361-XENG-2001	1371-EOPS-1001	1371-EOPS-1002
1371-EOPS-1003	1371-EOPS-1004	1371-EOPS-2006
1371-EOPS-2007	1371-EOPS-2008	1371-EOPS-2010
1371-EOPS-2011	1371-EOPS-2012	1371-HORZ-1001
1371-HORZ-1002	1371-HORZ-1003	1371-HORZ-2001
1371-HORZ-2002	1371-HORZ-2003	1371-HORZ-2004
1371-HORZ-2005	1371-MANT-1001	1371-MOBL-2001

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. JP 3-15 Barriers, Obstacles, and Mine Warfare for Joint Operations
- 3. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 4. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 5. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 6. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 7. MCRP 3-17.7F Project Management
- 8. MCRP 3-17.7G Military Soils Engineering
- 9. MCRP 3-17.7I Earthmoving Operations
- 10. MCRP 3-17.7L Explosives and Demolitions
- 11. MCRP 3-17.7M Construction Estimating
- 12. MCRP 3-17.7N Base Camps
- 13. MCRP 3-17A Engineering Field Data
- 14. MCRP 3-17B Engineer Forms and Reports
- 15. MCRP 4-11.1D Field Hygiene and Sanitation
- 16. MCWP 3-17 Engineering Operations
- 17. MCWP 3-17.4 Engineer Reconnaissance
- 18. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 19. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 20. MCWP 3-41.1 Rear Area Operations
- 21. MCWP 4-11 Tactical-Level Logistics
- 22. TM 5-232 Elements of Construction Surveying

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Engineer Earthmoving equipment, Material Handling equipment, Combat engineer equipment, Utilities equipment.

<u>CLB-HORZ-4002</u>: Construct expedient drainage structure

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Construction of expedient drainage structures (ditching, culverts, etc.) are designed for temporary conduit for water runoff from existing or proposed base camps, roads, airfields and watersheds until a permanent structure(s) can be installed.

<u>CONDITION</u>: Given a mission, commander's intent, tactical situation, task organized equipment and personnel, design specifications, construction materials and appropriate references.

STANDARD: To meet the requirements listed in the design specifications in accordance with the commander's intent.

EVENT COMPONENTS:

- 1. Review construction plans and schematics.
- 2. Review engineer reconnaissance and survey.
- 3. Acquire resources needed for project.
- 4. Conduct site preparation as required.
- 5. Operate/employ engineer equipment and kits.
- 6. Construct expedient ditch relief culverts.
- 7. Construct expedient log culverts.
- 8. Construct oil drum culvert.
- 9. Construct sandbag culvert.
- 10. Cover expedient culverts as required.
- 11. Construct expedient head/wing walls as required.
- 12. Submit required reports.

CHAINED EVENTS:

CLB-HEOP-3002	CLB-HEOP-3003	CLB-HORZ-3001
RELATED EVENTS:		
1345-ADMN-2002	1345-HEOP-1003	1345-HEOP-1004
1345-HEOP-1005	1345-HEOP-1006	1345-HEOP-1007
1345-HEOP-2009	1345-MANT-1001	1361-DRAF-1001
1361-DRAF-1002	1361-SRVY-1011	1361-SRVY-2001
1371-EOPS-2006	1371-EOPS-2007	1371-EOPS-2008
1371-EOPS-2010	1371-EOPS-2011	1371-HORZ-2001
1371-HORZ-2002	1371-HORZ-2003	

REFERENCES:

- 1. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 2. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 3. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 4. MCRP 3-17.7F Project Management
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Engineer equipment, Combat engineer equipment, Utilities equipment

CLB-MANT-4001: Maintain engineer equipment

SUPPORTED MCT(S):

MCT 4.2.2.4 MCT 4.4.3.1 MCT 4.4.4.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Manage and conduct preventive and corrective maintenance on engineer equipment.

<u>CONDITION</u>: With equipment, tools, repair parts, supplies, personnel and references.

STANDARD: To sustain equipment in an operational status at or above unit's readiness requirements.

EVENT COMPONENTS:

- 1. Monitor equipment readiness.
- 2. Conduct reconciliation.
- 3. Assign tasks.
- 4. Maintain organic tactical engineer equipment.
- 5. Manage maintenance programs.
- 6. Submit required reports.

CHAINED EVENTS:

CLB-MANT-3002	CLB-MANT-3003	CLB-MANT-3004
CLB-MANT-3005	CLB-MANT-3006	
RELATED EVENTS:		
1169-ADMN-2006	1169-ADMN-2007	1169-ADMN-2012
1169-ADMN-2021	1169-ADMN-2022	1169-ADMN-2041
1169-ADMN-2051	1169-ADMN-2052	1169-ADMN-2061
1169-ADMN-2064	1169-ADMN-2071	1169-ADMN-2072
1169-ADMN-2073	1169-ADMN-2074	1169-ADMN-2075
1310-ADMN-2004	1310-ADMN-2009	1310-MANT-2001
1310-MANT-2002	1341-ADMN-1001	1341-ADMN-1002
1341-ADMN-2002	1341-ADMN-2003	1341-ADMN-2004
1341-MANT-1001	1341-MANT-1002	1341-MANT-2010
1349-ADMN-2002	1349-ADMN-2004	1349-ADMN-2009
1349-ADMN-2010	1349-MANT-2001	1349-MANT-2002

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# **REFERENCES:**

- 1. Applicable Technical Manuals Publications
- 2. EMC Electric Motor Controls by American Technical Publishers, Inc.
- 3. Local Standard Operating Procedures (SOP)
- 4. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 5. DoDI 6055.1 DoD Safety and Occupational Health (SOH) Program
- 6. MCO 3500.27\_ Operational Risk Management (ORM)
- 7. MCO 4731.1\_ Oil Analysis Program for Ground Equipment
- 8. MCO 4733.1\_ Marine Corps Test, Measurement, and Diagnostics Equipment (TMDE) Calibration and Maintenance Program (CAMP)
- 9. MCO 4790.18\_ Corrosion Prevention and Control (CPAC) Program
- 10. MCO 4855.10\_ Product Quality Deficiency Report (PQDR)

- 11. MCO 5100.29\_ Marine Corps Safety Program
- 12. MCO P11262.2 Inspection, Testing, and Certification of Tactical Ground Load Lifting Equipment
- 13. MCO P4790.2\_ MIMMS Field Procedures Manual
- 14. MCWP 4-11 Tactical-Level Logistics
- 15. MCWP 4-11.4 Maintenance Operations

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17931 Medium/Heavy Equipment Training Area

**EQUIPMENT:** Tool sets, chests, and kits.

CLB-MOBL-4001: Conduct security for clearance operations

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Conduct security for clearance operations to provide sweep team freedom of action.

**CONDITION:** Provided a mission, designated area with known/potential/suspected obstacle(s), personnel, equipment, intelligence support and references.

**STANDARD:** To allow the sweep team freedom of maneuver while conducting sweeping operations in accordance with the concept of operations.

# **EVENT COMPONENTS:**

- 1. Analyze intelligence for designated area.
- 2. Coordinate with supported unit as required.
- 3. Coordinate with supporting units as required.
- 4. Move to area to be cleared.
- 5. Coordinate w/clearance unit on site, as required.
- 6. Establish area clearance security measures, as required.
- 7. Visually identify other potential hazards within area.
- 8. Visually identify potential suspects/civilians in area.
- 9. Control/cordon all movement going into area, as required.
- 10. Maintain communications w/clearance/sweep unit.
- 11. Submit required reports.

#### CHAINED EVENTS:

CLB-MOBL-3002 CLB-MOBL-3003

## RELATED EVENTS:

1302-MOBL-1003 1302-MOBL-1004 1302-MOBL-1005 1302-MOBL-1006

## **REFERENCES:**

1. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment

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- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17B Engineer Forms and Reports
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3-17.8 Combined Arms Mobility Operations

## SUPPORT REQUIREMENTS:

### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17730 Fire and Movement Range

**EQUIPMENT:** Combat engineer equipment, Squad and Fire team weapons, Command and Control assets.

# MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: OF

CLB-MOBL-4002: Detect obstacles during clearance operations

SUPPORTED MCT(S): MCT 4.4.1.1

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

**DESCRIPTION:** Detect obstacles during clearance operations in order to provide the MAGTF assured mobility.

<u>CONDITION</u>: Provided a mission, designated area with known/potential/suspected obstacle(s), personnel, equipment, intelligence support and references.

**STANDARD:** To ensure all obstacles and explosive hazards are detected, identified, and marked for reduction or bypass in accordance with the concept of operations.

# **EVENT COMPONENTS:**

- 1. Analyze intelligence for designated area.
- 2. Coordinate with supported unit as required.
- 3. Coordinate with supporting units as required.
- 4. Move to area to be cleared.
- 5. Confirm area clearance controls.
- 6. Visually identify all non-explosive obstacles within area.
- 7. Visually detect explosive hazards within area if possible.
- 8. Operate dismounted handheld detectors as required.
- 9. Operate mounted detectors as required.
- 10. Operate other detection equipment as required.
- 11. Alternate detector operators to prevent fatigue as required.
- 12. Mark obstacles for reduction as required.
- 13. Submit required reports.

## CHAINED EVENTS:

CLB-MOBL-3001 CLB-MOBL-3002

| RELATED | EVENTS: |
|---------|---------|
|---------|---------|

| 1302-MOBL-1002 | 1302-MOBL-1003 | 1302-MOBL-1004 |
|----------------|----------------|----------------|
| 1302-MOBL-1009 | 1345-HEOP-1006 | 1345-HEOP-2009 |
| 1345-MANT-1001 | 1345-MANT-2001 | 1371-MOBL-2018 |
| 1371-MOBL-2021 | 1371-MOBL-2022 | 1371-MOBL-2024 |
| 1371-MOBL-2025 | 1371-MOBL-2026 | 1371-MOBL-2027 |

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.4 Engineer Reconnaissance
- 8. MCWP 3-17.8 Combined Arms Mobility Operations

# SUPPORT REQUIREMENTS:

## RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces
Facility Code 17918 Road/Airfield Construction Training Site

**EQUIPMENT:** Motor Transportation, Engineer equipment, Route clearance assets, Command and Control assets.

CLB-MOBL-4003: Breach obstacles for clearance operations

SUPPORTED MCT(S): MCT 4.4.1.1

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**<u>DESCRIPTION</u>**: Breach obstacles during clearance operations to ensure the safe passage of combat, CS, and CSS organizations.

**CONDITION:** Provided a mission, designated area with known/potential/suspected obstacle(s), personnel, engineer tools and equipment, intelligence support, demolition tools, explosives, and references.

<u>STANDARD</u>: To ensure all explosives and non-explosive hazards are removed or destroyed in accordance with the concept of operations and commander's intent.

# **EVENT COMPONENTS:**

- 1. Analyze intelligence for designated area.
- 2. Coordinate with supported unit as required.
- 3. Coordinate with supporting units as required.
- 4. Move to area to be cleared.
- 5. Confirm area clearance controls.
- 6. Visually identify all non-explosive obstacles within area.
- 7. Visually detect mines, boobytraps, and unexploded ordnance within area if

## possible.

- 8. Operate mounted mine detectors as required.
- 9. Operated other detection equipment as required.
- 10. Conduct earthmoving operations to detect obstacles as required.
- 11. Alternate detector operators as required to prevent fatigue.
- 12. Mark obstacles for reduction as required.
- 13. Destroy obstacle as required.
- 14. Verify obstacle destruction.
- 15. Submit required reports.

# CLB-MOBL-3001

| RELATED EVENTS: |                |                |
|-----------------|----------------|----------------|
| 1302-MOBL-1002  | 1302-MOBL-1003 | 1302-MOBL-1004 |
| 1302-MOBL-1009  | 1302-MOBL-1010 | 1345-HEOP-1006 |
| 1345-HEOP-2009  | 1345-MANT-1001 | 1345-MANT-2001 |
| 1371-MOBL-1001  | 1371-MOBL-1002 | 1371-MOBL-1003 |
| 1371-MOBL-2018  | 1371-MOBL-2019 | 1371-MOBL-2020 |
| 1371-MOBL-2021  | 1371-MOBL-2022 | 1371-MOBL-2023 |
| 1371-MOBL-2024  | 1371-MOBL-2025 | 1371-MOBL-2026 |
| 1371-MOBL-2027  |                |                |

CLB-MOBL-3002

## REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.3 MAGTF Breaching Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance

# SUPPORT REQUIREMENTS:

# **ORDNANCE:**

| ·                                         |                            |
|-------------------------------------------|----------------------------|
| DODIC                                     | Quantity                   |
| J143 Rocket Motor, 5-inch MK22 Mod 4      | 3 rockets per squad        |
| M028 Demolition Kit, Bangalore Torpedo M1 | 1 cases per squad          |
| M032 Charge, Demolition Block TNT 1-Pound | 10 charges per squad       |
| M130 Cap, Blasting Electric M6            | 10 blasting caps per squad |
| M131 Cap, Blasting Non-Electric M7        | 20 blasting caps per squad |
| M456 Cord, Detonating PETN Type I Class E | 1500 FT per squad          |
| M670 Fuse, Blasting Time M700             | 500 FT per squad           |
| M757 Charge, Assembly Demolition M183 Com | 2 cases per squad          |
| M913 Charge, Demolition High Explosive Li | 2 charges per squad        |
| M914 Charge, Demolition Inert Linear M68A | 1 charges per squad        |
| ML03 Firing Device, Demolition Multi-Purp | 2 detonators per squad     |
| MN08 Igniter, Time Blasting Fuse with Sho | 35 igniters per squad      |
| MN52 MK154 Mod 0                          | 10 detonators per squad    |
| MN79 Mine, Antipersonnel Obstacle Breachi | 1 mines per squad          |
|                                           |                            |

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

**EQUIPMENT:** Combat engineer detection equipment, Engineer Material Handling Equipment, Combat engineer breaching equipment.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event. In addition, mission and situation will dictate which breaching charge will be used.

CLB-MOBL-4004: Conduct dismounted route sweep operations

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 3 months

**<u>DESCRIPTION</u>**: Conduct dismounted route sweep operations to detect, investigate, mark, report, and reduce Explosive Hazards (EH) and other obstacles along a defined route to enable assured mobility.

<u>CONDITION</u>: Given a mission, commander's intent, a permissive or semipermissive environment, a route to be swept, task organized personnel [command element, detection team(s) (the ear), marking team(s) (the finger), and demolition team] and equipment, and references.

**STANDARD:** To ensure all explosive/non-explosive hazards are detected, identified, reduced, proofed, and/or marked to provide sufficient mobility to support the concept of operations and commander's intent integrating all available resources.

### **EVENT COMPONENTS:**

- 1. Analyze search route intelligence.
- 2. Coordinate with supported unit for security as required.
- 3. Coordinate with supporting units.
- 4. Move to search area.
- 5. Detect obstacles along route.
- 6. Alternate detector operators as required to prevent fatigue.
- 7. Identify explosive components of obstacle(s).
- 8. Mark obstacle(s) as required.
- 9. Destroy obstacle(s) as required.
- 10. Verify obstacle reduction.
- 11. Coordinate explosive ordnance disposal activities as required.
- 12. Coordinate weapons intelligence team activities as required.
- 13. Coordinate with other specialist personnel as required.
- 14. Submit required reports.

# RELATED EVENTS:

1302-MOBL-1002 1302-MOBL-1004 1302-MOBL-1009

| 1302-MOBL-1010 | 1371-MOBL-1001 | 1371-MOBL-1002 |
|----------------|----------------|----------------|
| 1371-MOBL-1003 | 1371-MOBL-2018 | 1371-MOBL-2019 |
| 1371-MOBL-2020 | 1371-MOBL-2022 | 1371-MOBL-2023 |

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 3-13.2 MINE WARFARE
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.8 Combined Arms Mobility Operations

# SUPPORT REQUIREMENTS:

## ORDNANCE:

| DODIC                                     | Quantity                   |
|-------------------------------------------|----------------------------|
| M032 Charge, Demolition Block TNT 1-Pound | 10 charges per squad       |
| M130 Cap, Blasting Electric M6            | 30 blasting caps per squad |
| M456 Cord, Detonating PETN Type I Class E | 2000 FT per squad          |
| M670 Fuse, Blasting Time M700             | 250 FT per squad           |
| M757 Charge, Assembly Demolition M183 Com | 2 cases per squad          |
| MN08 Igniter, Time Blasting Fuse with Sho | 25 igniters per squad      |
| MN88 Cap, Blasting, 500 ft mini-tube M21  | 5 blasting caps per squad  |
| MN90 Cap, Blasting, 1000 ft mini-tube M23 | 10 blasting caps per squad |

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

**EQUIPMENT:** Kevlar helmet, flak vest, AN/PRC 119, mine detectors, probe, compass, protractor, Hand Emplaced Mine Marking System (HEMMS) kit, sickle stick, DA FORM 1355-1-R.

<u>MATERIAL</u>: Engineer tape, concertina wire, barbed wire, engineer stakes, tie wire, mine signs, sandbags.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event.

CLB-MOBL-4005: Conduct deliberate breach

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: Conduct a deliberate breach (mounted and dismounted) to cross a well-defended obstacle in order to continue the mission.

<u>CONDITION</u>: Provided a tactical scenario, mission, a minefield (or other suitable obstacle), and a task-organized breach force with personnel, equipment, and demolitions or explosives in their assault position.

**STANDARD:** To reduce, proof, and mark lane through a minefield/obstacle in accordance mission and commander's intent.

## **EVENT COMPONENTS:**

- 1. Verify obstacle intelligence as required.
- 2. Coordinate suppression of enemy over-watching obstacle.
- 3. Coordinate obscuration of enemy over-watching obstacle.
- 4. Coordinate security for breach lane.
- Coordinate breach with assault force, support force, and support breach team(s).
- 6. Verify suppression/obscuration effects.
- 7. Employ deception plan as required.
- 8. Move to breach site.
- 9. Reduce lane through obstacle.
- 10. Conduct gap crossing as required.
- 11. Conduct earthmoving operations as required.
- 12. Proof lane through obstacle.
- 13. Mark lane through obstacle.
- 14. Coordinate passage of assault force through breached lane.
- 15. Turnover lane to designated forces.
- 16. Submit required reports.
- 17. Reconstitute the breach force.

### **REFERENCES:**

- 1. FM 21-75 Combat Skills of the Soldier
- 2. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCWP 3-17.3 MAGTF Breaching Operations
- 6. MCWP 3-17.8 Combined Arms Mobility Operations
- 7. TM 08982A-14&P/2B Operator's Manual for MK 155 Mine Clearance System

### SUPPORT REQUIREMENTS:

# **ORDNANCE:**

| DODIC                                     | <u>Quantity</u>    |
|-------------------------------------------|--------------------|
| J143 Rocket Motor, 5-inch MK22 Mod 4      | 4 rockets per Team |
| M913 Charge, Demolition High Explosive Li | 1 charges per Team |
| M914 Charge, Demolition Inert Linear M68A | 2 charges per Team |

#### RANGE/TRAINING AREA:

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Facility Code 17410 Maneuver/Training Area, Light Forces
Facility Code 17420 Maneuver/Training Area, Heavy Forces
Facility Code 17830 Light Demolition Range
Facility Code 17918 Road/Airfield Construction Training Site
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EQUIPMENT: Engineer Earthmoving equipment, Combat Engineer Breaching

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equipment, Demolition kit, Firing device (M34, MK 152 Remote firing device, CD450-4J Blasting machine, AN/PRC 119, Kevlar helmet, flak vest, hearing protection.

MATERIAL: Engineer stakes, rope, sledge hammer, stake driver, gloves

UNITS/PERSONNEL: Range Safety officer, Corpsman

### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event. In addition, mission and situation will dictate which breaching charge will be used.

CLB-MOBL-4006: Conduct route improvement

SUPPORTED MCT(S): MCT 4.3.6

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**<u>DESCRIPTION</u>**: Conduct route improvement to maintain the route and to prevent/limit explosive hazard concealment opportunities for the enemy.

**CONDITION:** Given a tactical situation, an operations order, commander's intent, a route to be improved, task organized personnel and equipment, engineer reconnaissance reports, and references.

**STANDARD:** To maintain the route in support of mobility operations and commander's intent.

## **EVENT COMPONENTS:**

- 1. Analyze engineer reconnaissance report(s).
- 2. Coordinate with route clearance mission commander (for repair materials, logistics, security, etc.).
- 3. Confirm improvement requirements.
- 4. Move to improvement area.
- 5. Operate as part of route clearance team.
- 6. Visually detect explosive and other hazards as required.
- 7. Identify surface repairs as required.
- 8. Operate engineer equipment as required.
- 9. Remove obstructions (i.e., rubble/debris, vegetation, trash) as required.
- 10. Remove upheaval to required specifications.
- 11. Remove berms as required.
- 12. Place additional fill/stabilization/reinforcement materials as required.
- 13. Identify drainage structure repairs as required.
- 14. Conduct culvert denial activities as required.
- 15. Submit required reports.

## CHAINED EVENTS:

CLB-HEOP-3002 CLB-HEOP-3003 CLB-HORZ-3001

| RELATED | EVENTS: |
|---------|---------|
|---------|---------|

| 1302-MOBL-1002 | 1302-MOBL-1003 | 1302-MOBL-1004 |
|----------------|----------------|----------------|
| 1302-MOBL-1009 | 1302-MOBL-1010 | 1371-MOBL-2020 |
| 1371-MOBL-2021 | 1371-MOBL-2022 | 1371-MOBL-2023 |
| 1371-MOBL-2024 | 1371-MOBL-2025 | 1371-MOBL-2026 |
| 1371-MOBL-2027 |                |                |

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. GTA 5-7-13 Bridge Classification Booklet
- 3. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 4. MCRP 3-17.2D Explosive Hazard Operations
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 3-17.3 MAGTF Breaching Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.8 Combined Arms Mobility Operations

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17918 Road/Airfield Construction
Training Site

**EQUIPMENT:** Combat engineer equipment, Engineer equipment

CLB-MOBL-4007: Repair Runway Crater

SUPPORTED MCT(S): MCT 4.3.6

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: These repairs may be required due to enemy or friendly action/damage, lack of maintenance, poor construction techniques (for existing surfaces), or environmental damage. This task may be part of Airfield Damage Repair (ADR), and Base Recovery after an Attack (BRAAT).

<u>CONDITION</u>: Given a tactical situation, an operations order, commander's intent, an airfield operating surface requiring repair, task organized personnel and equipment, damage assessment reports, and references

**STANDARD:** To return the air field operating surface to a minimum operational capability within the design criteria and the commander's intent.

# **EVENT COMPONENTS:**

- 1. Analyze engineer reconnaissance/damage assessment report(s).
- 2. Coordinate crater repair.
- 3. Confirm repair requirements.
- 4. Conduct Explosive Ordnance Disposal (EOD) operations as required.
- 5. Operate engineer equipment as required.
- 6. Operate motor transport equipment as required.
- 7. Remove ejecta from operating surfaces.
- 8. Remove upheaval to required specifications.

- 9. Square hole as required.
- 10. Place fill/stabilization/reinforcement materials as required.
- 11. Compact fill materials as required.
- 12. Place geotextile layer(s) as required.
- 13. Surface repair with foreign object debris (FOD) cover as required.
- 14. Reconstitute crater repair team.
- 15. Submit required reports

#### CHAINED EVENTS:

| CLB-HEOP-3002 | CLB-HEOP-3003 | CLB-HORZ-3001 |
|---------------|---------------|---------------|
| CLB-RECN-3006 |               |               |

## RELATED EVENTS:

| 1302-EOPS-1004 | 1302-EOPS-1007 | 1302-RECN-1001 |
|----------------|----------------|----------------|
| 1371-EOPS-2004 | 1371-EOPS-2007 | 1371-EOPS-2010 |
| 1371-EOPS-2011 | 1371-EOPS-2012 |                |

### **REFERENCES:**

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. GTA 5-7-13 Bridge Classification Booklet
- 3. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 4. MCRP 3-17.2D Explosive Hazard Operations
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 3-17.4 Engineer Reconnaissance
- 9. MCWP 3-17.5 Combined Arms Countermobility Operations
- 10. MCWP 3-17.8 Combined Arms Mobility Operations

# SUPPORT REQUIREMENTS:

# RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17918 Road/Airfield Construction Training Site

**EQUIPMENT:** Engineer equipment, Combat engineer equipment

CLB-MOBL-4008: Repair Spall(s)

SUPPORTED MCT(S): MCT 4.3.6

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** These repairs may be required due to enemy or friendly action/damage, lack of maintenance, poor construction techniques (for existing surfaces), or environmental damage. This task may be part of Airfield Damage Repair (ADR), and Base Recovery after an Attack (BRAAT). Damage classified as a spall does not reach the base course underneath the operating surface of an airfield or road.

<u>CONDITION</u>: Given a tactical situation, an operations order, commander's intent, an airfield operating surface requiring repair, task organized personnel and equipment, damage assessment reports, and references

**STANDARD:** To return the air field operating surface to a minimum operational capability within the design criteria and the commander's intent.

### **EVENT COMPONENTS:**

- 1. Analyze engineer reconnaissance/damage assessment report(s).
- Coordinate spall repair(s).
- 3. Confirm repair requirements.
- 4. Conduct Explosive Ordnance Disposal (EOD) operations as required.
- 5. Operate engineer equipment as required.
- 6. Remove ejecta from operating surfaces.
- 7. Fill damaged area with materials suitable for airfield operating surface.

CLB-RECN-3006

- 8. Square hole as required.
- 9. Tamp repair as required.
- 10. Screed as required.
- 11. Reconstitute spall repair team.
- 12. Submit required reports.

# CLB-HEOP-3002

| RELATED EVENTS: |                |                |
|-----------------|----------------|----------------|
| 1302-EOPS-1004  | 1302-EOPS-1007 | 1302-EOPS-1009 |
| 1302-RECN-1001  | 1371-EOPS-2004 | 1371-EOPS-2006 |
| 1371-EOPS-2007  | 1371-EOPS-2010 | 1371-EOPS-2011 |
| 1371-EOPS-2012  |                |                |

CLB-HEOP-3003

## REFERENCES:

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. GTA 5-7-13 Bridge Classification Booklet
- 3. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 4. MCRP 3-17.2D Explosive Hazard Operations
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 3-17.3 MAGTF Breaching Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.8 Combined Arms Mobility Operations

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17918 Road/Airfield Construction
Training Site

**EQUIPMENT:** Engineer equipment, Motor transportation equipment, Combat engineer tools and kits, Combat engineer equipment

<u>CLB-MOBL-4009</u>: Repair Road Crater

**SUPPORTED MCT(S): MCT 4.3.6** 

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: These repairs may be required due to enemy or friendly

action/damage, lack of maintenance, poor construction techniques (for existing surfaces), or environmental damage.

**CONDITION:** Given a tactical situation, an operations order, commander's intent, a roadway operating surface requiring repair, task organized personnel and equipment, engineer reconnaissance reports, and references.

**STANDARD:** To return the road operating surface to a minimum operational capability within the design criteria and the commander's intent.

## **EVENT COMPONENTS:**

- 1. Analyze engineer reconnaissance report(s).
- 2. Coordinate crater repair (materials, logistics, security, etc.).
- 3. Confirm repair requirements.
- 4. Conduct Explosive Ordnance Disposal (EOD) operations as required.
- 5. Operate engineer equipment as required.
- 6. Operate motor transport equipment as required.
- 7. Remove upheaval to required specifications.
- 8. Remove debris from operating surfaces as required.
- 9. Fill hole.
- 10. Compact fill materials as required.
- 11. Square hole as required.
- 12. Place geotextile layer(s) as required.
- 13. Place additional fill/stabilization/reinforcement materials as required.

CLB-HORZ-3001

- 14. Repair shape of road as required.
- 15. Surface repair as required.
- 16. Repair drainage structures as required.
- 17. Reconstitute crater repair team.
- 18. Submit required reports.

# CLB-HEOP-3002

| RELATED EVENTS: |                |                |
|-----------------|----------------|----------------|
| 1302-EOPS-1007  | 1302-EOPS-1009 | 1302-HORZ-1002 |
| 1302-MOBL-1001  | 1371-EOPS-2010 | 1371-EOPS-2011 |
| 1371-EOPS-2012  | 1371-HORZ-2002 | 1371-HORZ-2003 |

CLB-HEOP-3003

## REFERENCES:

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. GTA 5-7-13 Bridge Classification Booklet
- 3. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 4. MCRP 3-17.2D Explosive Hazard Operations
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 3-17.3 MAGTF Breaching Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.8 Combined Arms Mobility Operations

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17918 Road/Airfield Construction
Training Site

**EQUIPMENT:** Engineer equipment, Combat engineer tools and kits, Combat engineer equipment, Motor transportation equipment

CLB-MOBL-4010: Construct expedient Helicopter Landing Zone (HLZ)

SUPPORTED MCT(S): MCT 4.3.6

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Conduct construction of expedient HLZ; includes but is not limited to clearing and grubbing geographical locations for takeoff and landing of rotary wing in support of troop transport, resupply, MEDEVAC operations, etc.

**CONDITION:** Given a mission, commander's intent, available resources, and references.

**STANDARD:** To create a landing site that will support rotary wing aircraft for the loading and unloading of personnel, resupply, and equipment in accordance with commander's intent, concept of operations and supported unit requirements.

## **EVENT COMPONENTS:**

- 1. Task organize
- 2. Conduct engineer reconnaissance.
- 3. Conduct survey.
- 4. Coordinate resource requirements.
- 5. Issue the order.
- 6. Clear landing site.
- 7. Maintain/improve landing site as required.
- 8. Submit required reports.

# CHAINED EVENTS:

CLB-HEOP-3002 CLB-HEOP-3003 CLB-HORZ-4001

CLB-MOBL-3001

# RELATED EVENTS:

1302-MOBL-1016 1302-RECN-1001 1371-MOBL-2001

# **REFERENCES:**

- 1. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 2. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 3. MCRP 3-17.7F Project Management
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3-17.8 Combined Arms Mobility Operations

# SUPPORT REQUIREMENTS:

## RANGE/TRAINING AREA:

Facility Code 17420 Maneuver/Training Area, Heavy Forces Facility Code 17918 Road/Airfield Construction Training Site

**EQUIPMENT:** Engineer Earthmoving equipment, Engineer Material Handling equipment

CLB-MOBL-4011: Employ demolitions in support of mobility operations

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Employ Class V munitions to reduce/destroy obstacles (explosive and non-explosive) that present mobility impediments to Operating forces on routes.

**CONDITION:** Provided a mission order, task organized personnel and equipment, Class V, personal protective equipment (PPE), and references.

**STANDARD:** To reduce mobility obstacles on designated routes and ensure mobility in accordance in the commander's intent, concept of operations and mission requirement.

#### **EVENT COMPONENTS:**

- 1. Review the mission.
- 2. Coordinate with supporting unit(s).
- Conduct final coordination with supported unit (location, requirements, security, etc.) as required.
- 4. Prepare equipment and materials for operation.
- 5. Move to obstacle sites(s).
- 6. Setup security.
- 7. Prepare charges.
- 8. Place charges.
- 9. Reduce obstacle(s).
- 10. Proof obstacle(s).
- 11. Clear site with support equipment as required.
- 12. Reconstitute obstacle clearing force.
- 13. Submit required reports.

### CHAINED EVENTS:

CLB-HEOP-3002 CLB-HEOP-3003 CLB-MOBL-3001

#### REFERENCES:

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 3-17 Engineering Operations

## SUPPORT REQUIREMENTS:

### ORDNANCE:

| DODIC                                     | Quantity                   |
|-------------------------------------------|----------------------------|
| M023 Charge, Demolition Block M112 1-1/4  | 30 charges per squad       |
| M032 Charge, Demolition Block TNT 1-Pound | 30 charges per squad       |
| M130 Cap, Blasting Electric M6            | 10 blasting caps per squad |
| M131 Cap, Blasting Non-Electric M7        | 20 blasting caps per squad |
| M456 Cord, Detonating PETN Type I Class E | 2000 FT per squad          |
| M591 Dynamite, Military M1                | 20 charges per squad       |
| M670 Fuse, Blasting Time M700             | 1000 FT per squad          |
| ML03 Firing Device, Demolition Multi-Purp | 10 detonators per squad    |
| MN08 Igniter, Time Blasting Fuse with Sho | 30 igniters per squad      |
| MN52 MK154 Mod 0                          | 20 detonators per squad    |

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

**EQUIPMENT:** Engineer Material Handling equipment, Combat engineer Demolitions kit

UNITS/PERSONNEL: Range Safety Officer, Corpsman

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event. In addition, mission and situation will dictate which breaching charge will be used.

**CLB-PINF-4001:** Fight as provisional infantry

SUPPORTED MCT(S): MCT 4.4.1.1

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

**DESCRIPTION:** Fight as Provide provisional infantry to participate in offensive operations such as attacks, raids, movement to contact, etc. Defensive operations that include withdrawal, patrolling, check point ops, convoy ops, and employment of organic weapons. Additional responsibilities may include operations other than war (civil disturbance, TRAP, cordon and search) and MOUT (attack, defend, patrol, clear a building, vehicle check point).

**CONDITION:** Given a requirement, task organized personnel and equipment, commander's intent and references.

**STANDARD:** To augment a supported unit during the conduct of offensive or defensive operations.

- 1. Receive orders.
- 2. Conduct inspections, rehearsals, and preparations.

- 3. Conduct final preparations.
- 4. Employ appropriate squad formations and tactics as required.
- 5. Employ organic weapons as required.
- 6. Employ communications as required.
- 7. Treat and evacuate casualties as required.
- 8. Process detainees as required.
- 9. Submit required reports.

### CHAINED EVENTS:

CLB-MOBL-3002 CLB-MOBL-3003

#### REFERENCES:

- 1. MCDP 1 Warfighting
- 2. MCDP 1-3 Tactics
- 3. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 4. MCRP 3-02G First Aid
- 5. MCWP 3-11.2 Marine Rifle Squad

### SUPPORT REQUIREMENTS:

### RANGE/TRAINING AREA:

Facility Code 17413 Field Training Area Facility Code 17420 Maneuver/Training Area, Heavy Forces

#### MISCELLANEOUS:

**ADMINISTRATIVE INSTRUCTIONS:** Type/quantities of ammunition, explosives and pyrotechnics are documented with the 3000 Level Events Chained to this event.

CLB-RECN-4001: Conduct site survey

#### SUPPORTED MCT(S):

MCT 4.4.1.1 MCT 4.4.2.1

**EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months** 

**DESCRIPTION:** Reconnoitering a site or area as part of survey, liaison and reconnaissance party to allow critical planning of specific construction and or operations in support of the MAGTF.

**CONDITION:** Provided a mission order, task organized personnel and equipment, and references.

**STANDARD:** To allow for critical planning of facilities and projects in accordance with the concept of operations and commander's intent.

- 1. Review the mission.
- 2. Coordinate with supporting unit as required.
- 3. Conduct final coordination with supported unit (location, requirements, security, etc.) as required.
- 4. Move to site or area.

- 5. Gather critical information as required.
- 6. Make liaisons as required.
- 7. Develop draft plans and schematics as required.
- 8. Plan resources as required.
- 9. Submit required reports.

CHAINED EVENTS: CLB-RECN-3001

#### RELATED EVENTS:

| 1302-HORZ-1001 | 1302-PLAN-1002 | 1302-PLAN-2004 |
|----------------|----------------|----------------|
| 1302-VERT-1001 | 1361-SRVY-1001 | 1361-SRVY-1002 |
| 1361-SRVY-1003 | 1361-SRVY-1004 | 1361-SRVY-1005 |
| 1361-SRVY-1006 | 1361-SRVY-1007 | 1361-SRVY-1008 |
| 1361-SRVY-1009 | 1361-SRVY-1010 | 1361-SRVY-1011 |
| 1361-SRVY-1012 | 1361-SRVY-2002 | 1361-XENG-2001 |
| 1361-XENG-2002 | 1371-PLAN-2002 |                |

#### **REFERENCES:**

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. MCRP 3-17.7F Project Management
- 3. MCRP 3-17A Engineering Field Data
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance

### SUPPORT REQUIREMENTS:

**EQUIPMENT:** Engineer survey equipment

<u>UNITS/PERSONNEL</u>: Engineer surveyor 1361

<u>CLB-RECN-4002</u>: Conduct cache sweep operations

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Conduct cache sweep operations in order to detect, identify and secure materials (documents, discs, tapes, weapons, explosives, ammunition, chemical materials, bombs, electronic equipment, etc.). Appropriate safety and evidentiary preservation measures should be employed during cache sweeps.

**CONDITION:** Provided a mission, designated area/building to search for known, potential, or suspected materials that may be used against friendly forces or be of intelligence value.

<u>STANDARD</u>: To detect, identify, and secure materials discovered during the course of the search in accordance with the commander's intent and concept of operations.

- 1. Analyze search area intelligence.
- 2. Task organize.

- 3. Coordinate with supported unit.
- 4. Coordinate with supporting units.
- 5. Detect cache within search area.
- 6. Identify items within cache(s).
- 7. Mark cache(s), as required.
- 8. Destroy captured enemy ammunition as required.
- 9. Verify cache destruction.
- 10. Coordinate explosive ordnance disposal activities as required.
- 11. Coordinate weapons intelligence team activities as required.
- 12. Coordinate with other specialist personnel as required.
- 13. Document/preserve evidence as required.
- 14. Submit required reports.

### CHAINED EVENTS: CLB-RECN-3002

#### RELATED EVENTS:

| 1302-DEMO-1004 | 1302-MOBL-1002 | 1302-MOBL-1003 |
|----------------|----------------|----------------|
| 1302-MOBL-1009 | 1371-MOBL-1002 | 1371-MOBL-1003 |
| 1371-MOBL-2018 | 1371-MOBL-2020 | 1371-MOBL-2021 |
| 1371-MOBL-2022 |                |                |

### **REFERENCES:**

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-1 Ground Combat Operations
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.2 MAGTF Explosive Ordnance Disposal
- 8. MCWP 3-17.4 Engineer Reconnaissance

### SUPPORT REQUIREMENTS:

#### **ORDNANCE:**

| DODIC                                     | Quantity                   |
|-------------------------------------------|----------------------------|
| K143 Mine, Antipersonnel M18A1 with M57 F | 1 mines per squad          |
| L495 Flare, Surface Trip M49 Series       | 4 flares per squad         |
| L598 Simulator, Explosive Booby Trap Flas | 4 Simulator per squad      |
| M032 Charge, Demolition Block TNT 1-Pound | 10 charges per squad       |
| M039 Charge, Demolition Cratering 40-Poun | 1 charges per squad        |
| M130 Cap, Blasting Electric M6            | 10 blasting caps per squad |
| M131 Cap, Blasting Non-Electric M7        | 20 blasting caps per squad |
| M420 Charge, Demolition Shaped M2 Series  | 1 charges per squad        |
| M421 Charge, Demolition Shaped M3 Series  | 1 charges per squad        |
| M456 Cord, Detonating PETN Type I Class E | 1500 FT per squad          |
| M591 Dynamite, Military M1                | 10 charges per squad       |
| M670 Fuse, Blasting Time M700             | 500 FT per squad           |
| M757 Charge, Assembly Demolition M183 Com | 2 charges per squad        |
| ML03 Firing Device, Demolition Multi-Purp | 2 igniters per squad       |
| MN08 Igniter, Time Blasting Fuse with Sho | 35 igniters per squad      |
|                                           |                            |

# RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17413 Field Training Area

Facility Code 17730 Fire And Movement Range Facility Code 17830 Light Demolition Range

**EQUIPMENT:** Combat engineer tools and kits, Combat Engineer detection equipment.

<u>UNITS/PERSONNEL</u>: Explosive Ordnance Personnel, Weapons Intelligence team, Corpsman.

### MISCELLANEOUS:

**ADMINISTRATIVE INSTRUCTIONS:** Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event.

CLB-RECN-4003: Conduct zone reconnaissance

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** To reconnoiter a delineated area to compile pertinent information and to clarify the threat situation, gather obstacle/terrain intelligence, zone infrastructure.

**CONDITION:** Given a mission, commander's intent, task organized personnel and equipment, and references.

**STANDARD:** To gather all relevant engineer data, and produce an engineer estimate (or designated products or guidance) in accordance with unit SOPs, the concept of operations and the commander's intent.

# **EVENT COMPONENTS:**

- 1. Review mission.
- 2. Coordinate support requirements and location(s).
- 3. Conduct final coordination with supported unit (location, requirements, security, etc.).
- 4. Conduct final coordination with supporting units (logistics, etc).
- 5. Conduct final rehearsals and immediate action drills, as required.
- 6. Reconnoiter for enemy threat, as required.
- 7. Reconnoiter routes, as required.
- 8. Reconnoiter infrastructures as, required.
- 9. Reconnoiter for obstacles as, required.
- 10. Submit required reports.

### CHAINED EVENTS:

CLB-RECN-3003 CLB-RECN-3004 CLB-RECN-3005

# RELATED EVENTS:

1302-RECN-1001 1371-RECN-1001 1371-RECN-2001

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. GTA 5-7-13 Bridge Classification Booklet
- 5. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 9. MCWP 3-17 Engineering Operations
- 10. MCWP 3-17.4 Engineer Reconnaissance
- 11. MCWP 3-17.8 Combined Arms Mobility Operations

### SUPPORT REQUIREMENTS:

#### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17730 Fire and Movement Range

**EQUIPMENT:** Combat engineer equipment.

CLB-RECN-4004: Conduct route reconnaissance

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** To reconnoiter specific routes to compile pertinent information and to clarify the threat situation, gather obstacle/terrain intelligence, infrastructure.

**CONDITION:** Given a mission, commander's intent, task organized personnel and equipment, and references.

<u>STANDARD</u>: To gather all relevant engineer data, and produce an engineer estimate (or designated products or guidance) in accordance with unit SOPs, the concept of operations and the commander's intent.

- 1. Review mission.
- 2. Issue the order.
- 3. Coordinate support requirements.
- 4. Conduct final coordination with supported unit (location, requirements and security).
- 5. Conduct final coordination with supporting units, as required.
- 6. Conduct final rehearsals and immediate action drills, as required.
- 7. Reconnoiter roads/routes, as required.
- 8. Reconnoiter tunnels, as required.
- 9. Reconnoiter bridges, as required.
- 10. Reconnoiter for fords/ferries, as required.
- 11. Reconnoiter for landing zones, as required.
- 12. Submit required reports.

CHAINED EVENTS:

CLB-RECN-3003 CLB-RECN-3004 CLB-RECN-3005

RELATED EVENTS:

1302-RECN-1001 1371-RECN-2001

### **REFERENCES:**

1. JP 3-34 Engineer Doctrine for Joint Operations

- 2. GTA 5-2-5 Engineer Reconnaissance
- 3. GTA 5-7-13 Bridge Classification Booklet
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.4 Engineer Reconnaissance
- 8. MCWP 3-17.5 Combined Arms Countermobility Operations

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light

Forces

**EQUIPMENT:** Combat engineer equipment

CLB-RECN-4005: Conduct area reconnaissance

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: To reconnoiter an area to compile pertinent information and to clarify the threat situation, gather obstacle/terrain intelligence, area infrastructure in established lateral boundaries.

**CONDITION:** Given a mission, commander's intent, task organized personnel and equipment, and references.

**STANDARD:** To gather all relevant data, and produce an engineer estimate (or designated products or guidance) in accordance with unit SOPs, the concept of operations and the commander's intent.

- 1. Review mission.
- 2. Issue the order.
- 3. Coordinate support requirements.
- 4. Conduct final coordination with supported unit (location, requirements, security, etc.).
- 5. Conduct final coordination with supporting units, as required.
- 6. Conduct final rehearsals and immediate action drills, as required.
- 7. Reconnoiter roads/routes to specified area, as required.
- 8. Reconnoiter infrastructure/facilities in specified area, as required.
- 9. Reconnoiter obstacles in specified area, as required.
- 10. Reconnoiter structures in specified area, as required.
- 11. Submit required reports.

## CHAINED EVENTS:

ESB-RECN-3001 ESB-RECN-3003 ESB-RECN-3004 ESB-RECN-3006 ESB-RECN-3007 ESB-RECN-3008

#### REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. GTA 5-7-13 Bridge Classification Booklet
- 5. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 9. MCWP 3-17 Engineering Operations
- 10. MCWP 3-17.4 Engineer Reconnaissance
- 11. MCWP 3-17.8 Combined Arms Mobility Operations

## SUPPORT REQUIREMENTS:

### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces

**EQUIPMENT:** Combat engineer equipment

CLB-SURV-4001: Harden existing structure

## SUPPORTED MCT(S):

MCT 4.4.1.1 MCT 4.4.2.1

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

<u>DESCRIPTION</u>: Harden existing structures in order to reduce the vulnerability of personnel, equipment, weapons, and supplies to enemy fire and as a means to enhance force protection.

**CONDITION:** Provided a mission, in an urban environment, commander's intent, reconnaissance reports, and survivability plan, a task organization of personnel and equipment, and references.

**STANDARD:** To meet the mission requirements in accordance with the concept of operations and commander's intent.

- 1. Review mission.
- 2. Review engineer reconnaissance and survey reports.
- 3. Coordinate with supported unit for specific position requirements.
- 4. Coordinate resources for project.
- 5. Conduct site preparation.
- 6. Construct perimeter security, as required.
- 7. Shore walls/ floors/ roofs, as required.
- 8. Remove/ reinforce windows, as required.

- 9. Compartmentalize interior of structure, as required.
- 10. Emplace prefabricated barrier(s), as required.
- 11. Construct earth filled barrier/structure(s), as required.
- 12. Conduct earthmoving operations, as required.
- 13. Construct overhead cover, as required.
- 14. Construct shelter/bunker, as required.
- 15. Construct triggering screen, as required.
- 16. Provide tactical power, as required.
- 17. Submit required reports.

#### RELATED EVENTS:

| 1302-EOPS-1001 | 1302-EOPS-1002 | 1302-EOPS-1003 |
|----------------|----------------|----------------|
| 1302-EOPS-1009 | 1302-RECN-1001 | 1302-SURV-1001 |
| 1371-EOPS-2005 | 1371-EOPS-2006 | 1371-EOPS-2007 |
| 1371-EOPS-2010 | 1371-EOPS-2011 | 1371-EOPS-2012 |
| 1371-HORZ-2004 | 1371-HORZ-2005 | 1371-RECN-1001 |
| 1371-RECN-1001 | 1371-RECN-2001 | 1371-SURV-1001 |
| 1371-SURV-2001 | 1371-SURV-2002 | 1371-VERT-1001 |
| 1371-VERT-1002 | 1371-VERT-1003 | 1371-VERT-1004 |
| 1371-VERT-1005 | 1371-VERT-2001 | 1371-VERT-2002 |
|                |                |                |

### REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. FM 5-553 General Drafting
- 4. JP 3-15 Barriers, Obstacles, and Mine Warfare for Joint Operations
- 5. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 6. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 7. MCRP 3-17.7C Carpentry
- 8. MCRP 3-17.7D Concrete and Masonry
- 9. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 10. MCRP 3-17.7F Project Management
- 11. MCRP 3-17.7I Earthmoving Operations
- 12. MCRP 3-17.7L Explosives and Demolitions
- 13. MCRP 3-17A Engineering Field Data
- 14. MCRP 3-17B Engineer Forms and Reports
- 15. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 16. MCWP 3-13.2 MINE WARFARE
- 17. MCWP 3-17 Engineering Operations
- 18. MCWP 3-17.4 Engineer Reconnaissance
- 19. MCWP 3-17.6 Survivability
- 20. MCWP 4-11 Tactical-Level Logistics

#### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17420 Maneuver/Training Area, Heavy
Forces

**EQUIPMENT:** Engineer Material Handling Equipment, Engineer earthmoving equipment, Combat engineer tools & kits, Utilities equipment.

CLB-SURV-4002: Construct field fortifications

### SUPPORTED MCT(S):

MCT 4.4.1.1 MCT 4.4.2.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: Construct field fortifications that reduce the vulnerability of personnel, equipment, weapons, and supplies to enemy fire, increase effectiveness of friendly weapons, and as a means to enhance force protection.

**CONDITION:** Provided a mission, commander's intent, reconnaissance reports, a task organization of personnel and equipment, and references.

**STANDARD:** To meet mission requirements in accordance with the concept of operations and commander's intent.

- 1. Review mission.
- 2. Review engineer reconnaissance and survey.
- 3. Coordinate with supported unit for specific position placement and requirements.
- 4. Construct survivability positions, as required.
- 5. Construct wire obstacles, as required.
- 6. Construct field expedient obstacles, as required.
- Construct/emplace barrier(s), as required.
- 8. Construct/emplace explosive obstacle(s), as required.
- 9. Conduct vertical construction, as required.
- 10. Harden existing structures, as required.
- 11. Conduct earthmoving operations, as required.
- 12. Provide tactical power, as required.
- 13. Submit required reports.

| CHAINED | EVENTS: |
|---------|---------|
|---------|---------|

| CLB-SURV-3001   | CLB-SURV-3002  | CLB-SURV-3003  |
|-----------------|----------------|----------------|
| CLB-SURV-3004   | CLB-SURV-3005  | CLB-SURV-3006  |
| CLB-SURV-3007   |                |                |
|                 |                |                |
| RELATED EVENTS: |                |                |
| 1302-CMOB-1001  | 1302-CMOB-1003 | 1302-EOPS-1001 |
| 1302-EOPS-1002  | 1302-EOPS-1003 | 1302-EOPS-1009 |
| 1302-RECN-1001  | 1302-SURV-1001 | 1302-SURV-1002 |
| 1302-SURV-1003  | 1302-SURV-1005 | 1371-CMOB-1001 |
| 1371-CMOB-1002  | 1371-CMOB-1003 | 1371-CMOB-2001 |
| 1371-CMOB-2002  | 1371-CMOB-2003 | 1371-DEMO-1001 |
| 1371-EOPS-1001  | 1371-EOPS-2005 | 1371-EOPS-2006 |
| 1371-EOPS-2010  | 1371-EOPS-2011 | 1371-EOPS-2012 |
| 1371-HORZ-1001  | 1371-HORZ-1002 | 1371-HORZ-1003 |
| 1371-HORZ-2004  | 1371-HORZ-2005 | 1371-SURV-1001 |
| 1371-VERT-1001  | 1371-VERT-1002 | 1371-VERT-1003 |
| 1371-VERT-1004  | 1371-VERT-1005 |                |

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance
- 7. MCWP 3-17.6 Survivability
- 8. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 9. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 10. MCWP 3-41.1 Rear Area Operations
- 11. MCWP 4-11 Tactical-Level Logistics

### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17420 Maneuver/Training Area, Heavy Forces

**EQUIPMENT:** Engineer earthmoving equipment, Engineer Material Handling Equipment, Combat engineer tools and equipment, Utilities equipment.

MATERIAL: Map, Compass, Protractor, Overlay sheets, Reconnaissance
reports.

#### MISCELLANEOUS:

**ADMINISTRATIVE INSTRUCTIONS: ORM** 

CLB-SURV-4003: Construct Vehicle Control Point (VCP)

### SUPPORTED MCT(S):

MCT 4.4.1.1 MCT 4.4.2.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: Construct Vehicle Control Point (VCP) to control, restrict and monitor movement of personnel and equipment and to gain information/data on suspected vehicles during military operations.

**CONDITION:** Provided a mission, commander's intent, intelligence reports, task organization of personnel and equipment, Class IV supplies, and references.

**STANDARD:** To gain information and maintain control of vehicles, pedestrians, and materials in accordance with mission requirements and commander's intent.

- 1. Review mission.
- 2. Review intelligence reports.
- 3. Coordinate with supported unit for specific position requirements.
- 4. Coordinate resources for project.
- 5. Coordinate security, as required.
- 6. Conduct site preparation and layout.

- 7. Construct survivability positions, as required.
- 8. Emplace prefabricated barrier(s), as required.
- 9. Construct wire obstacles, as required.
- 10. Construct expedient obstacles, as required.
- 11. Construct earth filled barrier/structure(s), as required.
- 12. Conduct earthmoving operations, as required.
- 13. Establish vehicle waiting area, as required.
- 14. Construct search lanes, as required.
- 15. Construct personnel search area(s), as required.
- 16. Construct/emplace signs, as required.
- 17. Provide tactical power, as required.
- 18. Submit required reports.

### CHAINED EVENTS:

| CLB-SURV-3002<br>CLB-SURV-3005 | CLB-SURV-3003  | CLB-SURV-3004  |
|--------------------------------|----------------|----------------|
| RELATED EVENTS:                |                |                |
| 1302-CMOB-1001                 | 1302-CMOB-1002 | 1302-CMOB-1003 |
| 1302-EOPS-1007                 | 1302-EOPS-1009 | 1302-SURV-1001 |
| 1302-SURV-1002                 | 1302-SURV-1003 | 1371-CMOB-1001 |
| 1371-CMOB-1002                 | 1371-CMOB-1003 | 1371-CMOB-2001 |
| 1371-CMOB-2002                 | 1371-DEMO-1001 | 1371-EOPS-2006 |
| 1371-EOPS-2007                 | 1371-EOPS-2010 | 1371-EOPS-2011 |
| 1371-EOPS-2012                 | 1371-SURV-1001 | 1371-VERT-1001 |
| 1371-VERT-1002                 | 1371-VERT-1004 |                |

#### REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance
- 7. MCWP 3-17.6 Survivability
- 8. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 9. MCWP 3-41.1 Rear Area Operations
- 10. MCWP 4-11 Tactical-Level Logistics

#### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

**EQUIPMENT:** Engineer Material Handling Equipment, engineer earthmoving equipment, combat engineer tools, kits and utilities equipment.

 $\underline{\textbf{MATERIAL}} \colon$  Map, Compass, Protractor, Overlay Sheets, Reconnaissance Reports.

# MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

CLB-SURV-4004: Construct Entry Access Point (EAP)

### SUPPORTED MCT(S):

MCT 4.4.1.1 MCT 4.4.2.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Construct Entry Access Point to prevent unauthorized personnel into military facilities.

**CONDITION:** Provided a mission, commander's intent, intelligence reports, task organization of personnel and equipment, Class IV supplies, and references.

**STANDARD:** To control and monitor access of vehicles, pedestrians, and materials onto military facilities in accordance with the concept of operations and commander's intent.

### **EVENT COMPONENTS:**

- 1. Review mission.
- 2. Review force protection requirements.
- 3. Coordinate resources for project.
- 4. Coordinate security, as required.
- 5. Conduct site preparation and layout.
- 6. Construct survivability positions, as required.
- 7. Emplace prefabricated barrier(s), as required.
- 8. Construct wire obstacles, as required.
- 9. Construct expedient obstacles, as required.
- 10. Construct earth filled barrier/structure(s), as required.
- 11. Conduct earthmoving operations, as required.
- 12. Establish vehicle turn-around area, as required.
- 13. Establish pedestrian lanes, as required.
- 14. Construct personnel search area(s), as required.
- 15. Construct/emplace signs, as required.
- 16. Provide tactical power, as required
- 17. Submit required reports.

# CHAINED EVENTS:

| CLB-SURV-3002 | CLB-SURV-3003 | CLB-SURV-3004 |
|---------------|---------------|---------------|
| CLB-SURV-3005 |               |               |

# RELATED EVENTS:

| 1302-CMOB-1001 | 1302-CMOB-1002 | 1302-CMOB-1003 |
|----------------|----------------|----------------|
| 1302-EOPS-1007 | 1302-EOPS-1009 | 1302-SURV-1001 |
| 1302-SURV-1002 | 1302-SURV-1003 | 1371-CMOB-1001 |
| 1371-CMOB-1002 | 1371-CMOB-1003 | 1371-CMOB-2001 |
| 1371-CMOB-2002 | 1371-DEMO-1001 | 1371-EOPS-2006 |
| 1371-EOPS-2007 | 1371-EOPS-2010 | 1371-EOPS-2011 |
| 1371-EOPS-2012 | 1371-SURV-1001 | 1371-SURV-2001 |
| 1371-VERT-1001 | 1371-VERT-1002 | 1371-VERT-1004 |
|                |                |                |

### **REFERENCES:**

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. MCRP 3-17.7L Explosives and Demolitions

- 3. MCRP 3-17A Engineering Field Data
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 8. MCWP 3-41.1 Rear Area Operations
- 9. MCWP 4-11 Tactical-Level Logistics

#### SUPPORT REQUIREMENTS:

### RANGE/TRAINING AREA:

Facility Code 17311 Range Support Building Facility Code 17410 Maneuver/Training Area, Light Forces

**EQUIPMENT:** Engineer Material Handling Equipment, Engineer Earthmoving equipment, Combat Engineer tools & kits.

# MISCELLANEOUS:

### ADMINISTRATIVE INSTRUCTIONS: ORM

CLB-SURV-4005: Construct earth filled barrier/structure

## SUPPORTED MCT(S):

MCT 4.4.1.1 MCT 4.4.2.1

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**<u>DESCRIPTION</u>**: Construct earth filled barrier/structure in support of survivability of the force.

**CONDITION:** Provided a mission, commander's intent, reconnaissance reports, a task organization of personnel and equipment, and references.

**STANDARD:** That supports the mission requirements and concept of operations in accordance with the commander's intent.

# **EVENT COMPONENTS:**

- 1. Review mission.
- 2. Review engineer reconnaissance and survey.
- 3. Coordinate with supported unit for specific placement and requirements.
- 4. Construct/emplace barrier(s), as required.
- 5. Conduct earthmoving operations, as required.
- 6. Submit required reports.

# CHAINED EVENTS:

CLB-HEOP-3002 CLB-SURV-3001 CLB-SURV-3002

CLB-SURV-3004

#### RELATED EVENTS:

| 1302-RECN-1001 | 1302-SURV-1001 | 1302-SURV-1002 |
|----------------|----------------|----------------|
| 1302-SURV-1003 | 1302-SURV-1004 | 1302-SURV-1005 |
| 1371-RECN-1001 | 1371-RECN-2001 | 1371-SURV-2001 |
| 1371-SURV-2002 |                |                |

#### REFERENCES:

- 1. MCRP 3-17.7I Earthmoving Operations
- 2. MCRP 3-17A Engineering Field Data
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.4 Engineer Reconnaissance
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 7. MCWP 4-11 Tactical-Level Logistics

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light

Forces

**EQUIPMENT:** Engineer Earthmoving equipment

CLB-SURV-4006: Employ demolitions in support of survivability operations

### SUPPORTED MCT(S):

MCT 4.4.1.1 MCT 4.4.2.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Employ demolitions in support of survivability operations to support the defense of friendly positions or clearance of natural/man-made obstacles for fields of fire to eliminate enemy cover and concealment.

 $\underline{\text{CONDITION}}$ : Provided a mission order, task organized personnel and equipment, Class V, personal protective equipment (PPE), and references.

**STANDARD:** To enhance friendly survivability positions and fields of fire to defeat the enemy per the commander's intent and concept of operations.

- 1. Review the mission.
- 2. Coordinate with supporting unit(s).
- 3. Conduct final coordination with supported unit (location, requirements, security, etc.) as required.
- 4. Prepare personnel for mission requirements as required.
- 5. Construct booby traps as required.
- 6. Clear fields of fire as required.
- 7. Place expedient explosive devices to support positions as required.
- 8. Mark fortifications/explosive devices as required.
- 9. Reconstitute force as required.
- 10. Submit required reports.

| CHAINED EVENTS: |                |                |
|-----------------|----------------|----------------|
| ESB-CMOB-3001   | ESB-CMOB-3002  | ESB-CMOB-3003  |
| ESB-HEOP-3002   | ESB-HEOP-3003  | ESB-MOBL-3004  |
| ESB-RECN-3003   |                |                |
|                 |                |                |
| RELATED EVENTS: |                |                |
| 1302-DEMO-1001  | 1302-DEMO-1002 | 1302-SURV-1001 |
| 1302-SURV-1003  | 1302-SURV-1005 | 1371-CMOB-2003 |
| 1371-DEMO-1001  | 1371-DEMO-2002 | 1371-EOPS-1002 |
| 1371-EOPS-1003  | 1371-EOPS-1004 | 1371-SURV-1001 |
| 1371-SURV-2001  | 1371-SURV-2002 |                |

- 1. MCRP 3-17.2D Explosive Hazard Operations
- 2. MCRP 3-17.7L Explosives and Demolitions
- 3. MCRP 3-17A Engineering Field Data
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.6 Survivability

## SUPPORT REQUIREMENTS:

### **ORDNANCE:**

| DODIC                                     | Quantity                   |
|-------------------------------------------|----------------------------|
| M023 Charge, Demolition Block M112 1-1/4  | 20 charges per squad       |
| M032 Charge, Demolition Block TNT 1-Pound | 20 charges per squad       |
| M130 Cap, Blasting Electric M6            | 10 blasting caps per squad |
| M131 Cap, Blasting Non-Electric M7        | 20 blasting caps per squad |
| M456 Cord, Detonating PETN Type I Class E | 2000 FT per squad          |
| M591 Dynamite, Military M1                | 20 charges per squad       |
| M670 Fuse, Blasting Time M700             | 500 FT per squad           |
| ML03 Firing Device, Demolition Multi-Purp | 10 detonators per squad    |
| MN08 Igniter, Time Blasting Fuse with Sho | 20 igniters per squad      |
| MN52 MK154 Mod 0                          | 10 detonators per squad    |

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

**EQUIPMENT:** Engineer Material Handling equipment, Combat engineer Demolitions kit

UNITS/PERSONNEL: Range Safety Officer, Corpsman

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

<u>CLB-UTIL-4001</u>: Provide limited tactical electrical power

SUPPORTED MCT(S): MCT 4.4.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Plan and coordinate limited power generation/electrical distribution in accordance with the unit's mission statement. Limited tactical electric supply is a scaled level of power generation and distribution that provides support to a single unit. Unit performing limited tactical electrical supply is constrained by capacity and capability from providing tactical electrical support beyond its own footprint.

**CONDITION:** With a utilities plan, required equipment and personnel.

STANDARD: In accordance with the operational order and commander's intent.

### **EVENT COMPONENTS:**

- 1. Plan tactical power requirements.
- 2. Coordinate logistical support/requirements.
- 3. Establish generator site(s).
- 4. Establish power distribution.
- 5. Maintain utilities equipment, as required.
- 6. Submit required reports.

#### RELATED EVENTS:

| 1169-ADMN-2002 | 1169-ADMN-2003 | 1169-ADMN-2021 |
|----------------|----------------|----------------|
| 1169-ADMN-2022 | 1169-XENG-2501 | 1169-XENG-2502 |
| 1169-XENG-2521 | 1169-XENG-2522 | 1169-XENG-2561 |
| 1169-XENG-2621 | 1169-XENG-2622 | 1169-XENG-2721 |
| 1169-XENG-2821 | 1169-XENG-2965 | 1169-XENG-2966 |

#### **REFERENCES:**

- 1. FM 5-424 Theater of Operations Electrical Systems
- 2. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 3. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# **SUPPORT REQUIREMENTS:**

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

**EQUIPMENT:** Utilities equipment, engineer Material Handling Equipment (MHE), Motor Transport equipment.

MATERIAL: POLs, HazMat Kits, spill containment kits, fuel

CLB-UTIL-4002: Provide limited potable water

SUPPORTED MCT(S): MCT 4.4.3.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**<u>DESCRIPTION</u>**: Produce, store, and distribute potable water in order to meet mission requirements.

**CONDITION:** With a utilities plan, required equipment and personnel.

**STANDARD:** To meet planning requirements.

### **EVENT COMPONENTS:**

- 1. Perform Water Recon.
- 2. Establish Water Point.
- 3. Produce Potable Water.
- 4. Store Potable Water.
- 5. Establish Water Distribution Points.

### RELATED EVENTS:

| 1169-ADMN-2007 | 1169-ADMN-2021 | 1169-ADMN-2022 |
|----------------|----------------|----------------|
| 1169-ADMN-2051 | 1169-ADMN-2052 | 1169-ADMN-2075 |
| 1169-ADMN-2091 | 1169-XENG-2501 | 1169-XENG-2502 |
| 1169-XENG-2553 | 1169-XENG-2653 | 1169-XENG-2752 |
| 1169-XENG-2753 | 1169-XENG-2853 |                |

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 5. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 6. TB MED 577 Occupational and Environmental Health Sanitary Control and Surveillance of Field Water Supplies

#### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17924 Water Supply Training Area

**EQUIPMENT:** Utilities equipment with supplemental kits (cartridges, NBC filters etc.), MHE, water testing kit, tool kits, PPE

MATERIAL: Chemicals to purify raw water source

<u>UNITS/PERSONNEL</u>: Note: Request Navy Medical Technician and Preventive Medicine Technician (PMT) as required.

CLB-UTIL-4003: Provide tactical hygiene support

SUPPORTED MCT(S): MCT 4.4.3.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Provide limited tactical hygiene support in order to provide sanitary shower, laundry, and field sanitation support to meet the commander's intent.

**CONDITION:** With a utilities plan, required equipment and personnel.

**STANDARD:** To meet planning requirements in accordance with commander's intent.

### **EVENT COMPONENTS:**

- 1. Establish shower facilities.
- 2. Establish laundry facilities.
- 3. Supervise field sanitation.

#### RELATED EVENTS:

| 1169-ADMN-2007 | 1169-ADMN-2021 | 1169-ADMN-2022 |
|----------------|----------------|----------------|
| 1169-ADMN-2051 | 1169-ADMN-2052 | 1169-ADMN-2091 |
| 1169-XENG-2501 | 1169-XENG-2502 | 1169-XENG-2555 |
| 1169-XENG-2655 | 1169-XENG-2755 | 1169-XENG-2855 |

#### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCRP 4-11.1D Field Hygiene and Sanitation

### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light

Forces

**EQUIPMENT:** Utilities equipment, Material Handling equipment, PPE

MATERIAL: Building materials (gravel, lime, pest insecticide, lumber etc.)

CLB-VERT-4001: Conduct limited vertical construction

SUPPORTED MCT(S): MCT 4.4.2.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Conduct limited vertical construction to build or provide improvements to existing structures or construction of base camps, command posts, and maintenance facilities for use by the GCE and CLB.

<u>CONDITION</u>: Given a mission, commander's intent, tactical situation, task organized equipment and personnel, design specifications, construction materials and appropriate references.

**STANDARD:** To build and/or improve facilities that meet the minimum requirements listed in the design specifications in accordance with the commander's intent and concept of operations.

- 1. Plan vertical construction.
- 2. Conduct engineer reconnaissance.
- 3. Conduct survey as required.
- 4. Coordinate resources for project.
- 5. Conduct site preparation.
- 6. Repair facility as required.
- 7. Erect prefabricated structure, as required.
- 8. Construct wood frame structure, as required.
- 9. Construct timber structure, as required.
- 10. Construct expedient drainage structure, as required.

- 11. Wire structure for electricity as required.
- 12. Submit required reports.

## RELATED EVENTS:

| 1302-PLAN-1002 | 1302-RECN-1001 | 1302-VERT-1001 |
|----------------|----------------|----------------|
| 1316-XENG-1001 | 1316-XENG-1006 | 1361-DRAF-1001 |
| 1361-DRAF-1002 | 1361-DRAF-1003 | 1361-SRVY-1004 |
| 1361-SRVY-1008 | 1361-SRVY-2003 | 1361-SRVY-2004 |
| 1361-SRVY-2005 | 1371-EOPS-2006 | 1371-EOPS-2007 |
| 1371-EOPS-2008 | 1371-EOPS-2010 | 1371-EOPS-2011 |
| 1371-EOPS-2012 | 1371-HORZ-2002 | 1371-HORZ-2003 |
| 1371-RECN-2001 | 1371-VERT-2001 | 1371-VERT-2002 |

#### **REFERENCES:**

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. GTA 5-7-13 Bridge Classification Booklet
- 3. GTA 5-7-6 Bridge Design Card
- 4. JP 3-15 Barriers, Obstacles, and Mine Warfare for Joint Operations
- 5. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 6. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 7. MCRP 3-17.7C Carpentry
- 8. MCRP 3-17.7D Concrete and Masonry
- 9. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 10. MCRP 3-17.7F Project Management
- 11. MCRP 3-17.7I Earthmoving Operations
- 12. MCRP 3-17.7K Theater of Operations Electrical Systems
- 13. MCRP 3-17.7M Construction Estimating
- 14. MCRP 3-17.7N Base Camps
- 15. MCRP 3-17A Engineering Field Data
- 16. MCRP 4-11.1D Field Hygiene and Sanitation
- 17. MCWP 3-17 Engineering Operations
- 18. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 19. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 20. MCWP 4-11 Tactical-Level Logistics
- 21. TM 5-232 Elements of Construction Surveying

## SUPPORT REQUIREMENTS:

**EQUIPMENT:** Engineer earthmoving equipment, Combat engineer tools and kits, Material Handling Equipment

CLB-VERT-4002: Construct wood frame structure

SUPPORTED MCT(S): MCT 4.4.2.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Construct wood frame structures for use in all operations conducted to include but not limited to strong backs, sheds, facilities, sea huts, etc., or may be specified in mission directives.

<u>CONDITION</u>: Given a mission, commander's intent, tactical situation, task organized equipment and personnel, construction plans, design specifications, construction materials and references.

**STANDARD:** To meet the requirements listed in the design specifications in accordance with commander's intent.

### **EVENT COMPONENTS:**

- 1. Review construction plans and schematics.
- 2. Review engineer reconnaissance and survey.
- 3. Acquire resources needed for project.
- 4. Conduct site preparation, as required.
- 5. Operate/employ engineer equipment and kits.
- 6. Construct/install footers, as required.
- 7. Construct/install flooring structure, as required
- 8. Construct/install wall structure(s), as required.
- 9. Construct/install roof structure, as required.
- 10. Construct/install doors, as required.
- 11. Construct/install windows, as required.
- 12. Finish interior, as required.
- 13. Finish exterior, as required.
- 14. Submit required reports.

#### RELATED EVENTS:

| KETHIED EVERIED. |                |                |
|------------------|----------------|----------------|
| 1302-EOPS-1007   | 1302-EOPS-1009 | 1302-RECN-1001 |
| 1302-VERT-1001   | 1371-EOPS-1002 | 1371-EOPS-1003 |
| 1371-EOPS-1004   | 1371-EOPS-2006 | 1371-EOPS-2007 |
| 1371-EOPS-2008   | 1371-EOPS-2010 | 1371-EOPS-2011 |
| 1371-EOPS-2012   | 1371-HORZ-2002 | 1371-HORZ-2003 |
| 1371-MANT-1001   | 1371-VERT-1001 | 1371-VERT-1002 |
| 1371-VERT-2001   | 1371-VERT-2002 |                |

### REFERENCES:

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7F Project Management
- 3. MCRP 3-17.7M Construction Estimating
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-17.7 General Engineering
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)

## SUPPORT REQUIREMENTS:

MATERIAL: Class IV

OTHER SUPPORT REQUIREMENTS: Electrical and fuel requirements.

CLB-VERT-4003: Construct concrete block structure

SUPPORTED MCT(S): MCT 4.4.2.1

**EVALUATION-CODED:** YES **SUSTAINMENT INTERVAL:** 6 months

<u>DESCRIPTION</u>: To conduct concrete block and other masonry construction as directed. Task emphasizes type of material, placement, finishing, and equipment used to build structures and foundations. This task also implies use of wood frame components for roofs and opening enclosures (doors, windows, etc.).

**CONDITION:** Given a mission, commander's intent, tactical situation, task organized equipment and personnel, design specifications, construction materials and appropriate references.

**STANDARD:** That meets the requirements listed in the design specifications in accordance with the commander's intent and concept of operations.

### **EVENT COMPONENTS:**

- 1. Review construction plans and schematics.
- 2. Review engineer reconnaissance and survey.
- 3. Acquire resources needed for project.
- 4. Conduct site preparation as required.
- 5. Operate/employ engineer equipment and kits.
- 6. Construct/install foundation as required.
- 7. Construct/install wall structure(s) as required.
- 8. Place opening(s) as required.
- 9. Construct/place roof as required.
- 10. Construct/install doors as required.
- 11. Construct/install windows as required.
- 12. Submit required reports.

#### RELATED EVENTS:

| 1302-EOPS-1001 | 1302-EOPS-1002 | 1302-EOPS-1003 |
|----------------|----------------|----------------|
| 1302-EOPS-1007 | 1302-EOPS-1009 | 1302-RECN-1001 |
| 1302-VERT-1001 | 1316-XENG-1001 | 1316-XENG-1006 |
| 1371-EOPS-1001 | 1371-EOPS-1004 | 1371-EOPS-2005 |
| 1371-EOPS-2006 | 1371-EOPS-2007 | 1371-EOPS-2010 |
| 1371-EOPS-2011 | 1371-EOPS-2012 | 1371-HORZ-1001 |
| 1371-HORZ-1002 | 1371-HORZ-1003 | 1371-HORZ-2004 |
| 1371-HORZ-2005 | 1371-MANT-1001 | 1371-RECN-2001 |
| 1371-VERT-1003 |                |                |

## REFERENCES:

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7D Concrete and Masonry
- 3. MCRP 3-17.7F Project Management
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.8 Combined Arms Mobility Operations
- 8. MCWP 3-33 Military Operations Other Than War (MOOTW)

## SUPPORT REQUIREMENTS:

EQUIPMENT: Concrete and Masonry kit, concrete mixer, Pioneer kit, PPE

MATERIAL: Portland cement, coarse and fine aggregate, ad-mixture

OTHER SUPPORT REQUIREMENTS: Electrical and fuel requirements.

CLB-VERT-4004: Construct timber structure

SUPPORTED MCT(S): MCT 4.4.2.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Engineers will conduct construction of timber structures for survivability of personnel and equipment. Structures consist of but not limited to bunkers, shelters, overhead cover, guard posts, crew-serve weapons positions, and individual fighting positions.

<u>CONDITION</u>: Given a mission, commander's intent, tactical situations, task organized equipment and personnel, design specifications, construction materials and references.

**STANDARD:** To meet the survivability requirements and in accordance with the commander's intent and concept of operations.

#### **EVENT COMPONENTS:**

- 1. Review construction plans and schematics.
- 2. Review engineer reconnaissance and survey.
- 3. Acquire resources needed for project.
- 4. Conduct site preparation as required.
- 5. Operate/employ engineer equipment and kits.6. Construct/prefabricate structures as required.
- 7. Emplace structures as required.
- 8. Construct/install wall structure(s) as required.
- 9. Construct/install roof structure/components as required.
- 10. Construct/install doors as required.
- 11. Construct/install portholes as required.
- 12. Sandbag structure as required.
- 13. Camouflage as required.
- 14. Install grenade sumps as required.
- 15. Submit required reports.

## RELATED EVENTS:

| 1302-EOPS-1007 | 1302-EOPS-1009 | 1302-RECN-1001 |
|----------------|----------------|----------------|
| 1302-SURV-1001 | 1302-SURV-1002 | 1302-VERT-1001 |
| 1371-EOPS-1002 | 1371-EOPS-1003 | 1371-EOPS-1004 |
| 1371-EOPS-2006 | 1371-EOPS-2007 | 1371-EOPS-2008 |
| 1371-EOPS-2010 | 1371-EOPS-2011 | 1371-EOPS-2012 |
| 1371-MANT-1001 | 1371-RECN-2001 | 1371-SURV-1001 |
| 1371-SURV-2001 | 1371-SURV-2002 | 1371-VERT-1001 |
| 1371-VERT-1002 | 1371-VERT-1004 | 1371-VERT-1005 |

# REFERENCES:

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7F Project Management
- 3. MCRP 3-17.7M Construction Estimating

- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-17.7 General Engineering
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)

### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

**EQUIPMENT:** Engineer Material Handling equipment, Combat Engineer tools and Kits

<u>CLB-VERT-4005</u>: Repair existing structures

SUPPORTED MCT(S): MCT 4.4.2.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Engineers will conduct this task for any type of structure (wood, concrete, steel, bridges, etc.) or facilities that have been damaged/flawed or incorrect per design specifications.

<u>CONDITION</u>: Given a mission, commander's intent, tactical situation, task organized equipment and personnel, structure/facility in need of repair, construction materials and references.

**STANDARD:** To meet the original design requirements/specifications to restore structure or facilities and in accordance with the commander's intent.

### **EVENT COMPONENTS:**

- 1. Review construction plans and schematics as required.
- 2. Review engineer reconnaissance and survey as required.
- 3. Acquire resources needed for project.
- 4. Conduct site preparation as required.
- 5. Operate/employ engineer equipment and kits.
- 6. Repair/replace structural components as required.
- 7. Repair/replace electrical as required.
- 8. Repair bridge abutments as required.
- 9. Submit required reports.

PREREQUISITE EVENTS: CLB-RECN-4001

#### CHAINED EVENTS:

CLB-HEOP-3002 CLB-UTIL-3001

#### RELATED EVENTS:

| 1302-EOPS-1009 | 1302-RECN-1001 | 1302-VERT-1001 |
|----------------|----------------|----------------|
| 1316-XENG-1001 | 1316-XENG-1006 | 1371-EOPS-2007 |
| 1371-EOPS-2010 | 1371-EOPS-2011 | 1371-RECN-1001 |
| 1371-VERT-1001 | 1371-VERT-1002 | 1371-VERT-1003 |
| 1371-VERT-1004 | 1371-VERT-1005 |                |
|                |                |                |

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 3. MCRP 3-17.7F Project Management
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-33 Military Operations Other Than War (MOOTW)

#### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

 $\frac{\textbf{EQUIPMENT}}{\textbf{kits}}$ : Engineer Material Handling equipment, Combat Engineer tools and

CLB-VERT-4006: Construct concrete structure

SUPPORTED MCT(S): MCT 4.4.2.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Construction of concrete structures for use in all operations conducted to include but not limited to wing walls, buildings, foundations, retaining walls, etc., or may be specified in mission directives in support of the MAGTF.

<u>CONDITION</u>: Given a mission, commander's intent, tactical situation, task organized equipment and personnel, design specifications, construction materials and appropriate references.

**STANDARD:** To meet the requirements listed in the design specifications, in accordance with the commander's intent and concept of operations.

### **EVENT COMPONENTS:**

- 1. Review construction plans and schematics.
- 2. Review engineer reconnaissance and survey.
- 3. Acquire resources needed for project.
- 4. Conduct site preparation as required.
- 5. Operate/employ engineer equipment and kits.
- 6. Construct/install form work for footers as required.
- 7. Construct/install form work for walls as required.
- 8. Place reinforcement material as required.
- 9. Place concrete for footer(s) as required.
- 10. Place concrete for wall(s) as required.
- 11. Place concrete for slab(s) as required.
- 12. Consolidate concrete as required.
- 13. Finish concrete as required.
- 14. Remove forms as required.
- 15. Submit required reports.

# RELATED EVENTS:

1302-EOPS-1001 1302-EOPS-1002 1302-EOPS-1003

| 1302-EOPS-1007 | 1302-EOPS-1009 | 1302-RECN-1001 |
|----------------|----------------|----------------|
| 1302-SURV-1001 | 1302-SURV-1005 | 1302-VERT-1001 |
| 1316-XENG-1001 | 1316-XENG-1006 | 1371-EOPS-1001 |
| 1371-EOPS-1004 | 1371-EOPS-2005 | 1371-EOPS-2006 |
| 1371-EOPS-2007 | 1371-EOPS-2010 | 1371-EOPS-2011 |
| 1371-EOPS-2012 | 1371-HORZ-1001 | 1371-HORZ-1002 |
| 1371-HORZ-1003 | 1371-HORZ-2004 | 1371-HORZ-2005 |
| 1371-MANT-1001 | 1371-RECN-2001 | 1371-SURV-1001 |
| 1371-SURV-2001 | 1371-VERT-1003 |                |

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7D Concrete and Masonry
- 3. MCRP 3-17.7F Project Management
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-33 Military Operations Other Than War (MOOTW)

### SUPPORT REQUIREMENTS:

 $\frac{\textbf{EQUIPMENT}}{\textbf{kits}}$ : Engineer Material Handling equipment, Combat Engineer tools and

CLB-VERT-4007: Construct manufactured steel structure

SUPPORTED MCT(S): MCT 4.4.2.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Any manufactured steel structures to include but not limited to K-Spans, Butler Buildings, Pre-engineered buildings, Framed Shelters w/vinyl covers, etc.

**CONDITION:** Given a mission, commander's intent, tactical situation, task organized equipment and personnel, steel structure components, design specifications, construction materials and appropriate references.

**STANDARD:** That meets the requirements listed in the manufacturer specifications, in accordance with the commander's intent and concept of operations.

- 1. Review construction plans and schematics.
- 2. Review engineer reconnaissance and survey.
- 3. Acquire resources needed for project.
- 4. Conduct site preparation as required.
- 5. Operate/employ engineer equipment and kits.
- 6. Construct/install foundation as required.
- 7. Construct/install flooring as required
- 8. Construct/install structure(s) as required.
- 9. Construct/install doors as required.
- 10. Construct/install windows as required.
- 11. Submit required reports.

| RELATED EVENTS: |                |                |
|-----------------|----------------|----------------|
| 1302-EOPS-1001  | 1302-EOPS-1002 | 1302-EOPS-1003 |
| 1302-EOPS-1007  | 1302-EOPS-1009 | 1302-SURV-1001 |
| 1302-SURV-1005  | 1302-VERT-1001 | 1316-XENG-1001 |
| 1316-XENG-1006  | 1371-EOPS-1001 | 1371-EOPS-1004 |
| 1371-EOPS-2006  | 1371-EOPS-2007 | 1371-EOPS-2010 |
| 1371-EOPS-2011  | 1371-EOPS-2012 | 1371-HORZ-1001 |
| 1371-HORZ-1002  | 1371-HORZ-1003 | 1371-HORZ-2004 |
| 1371-HORZ-2005  | 1371-MANT-1001 | 1371-RECN-2001 |
| 1371-SURV-1001  | 1371-VERT-1001 | 1371-VERT-1002 |
| 1371-VERT-1003  | 1371-VERT-1004 |                |

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. JP 3-15 Barriers, Obstacles, and Mine Warfare for Joint Operations
- 3. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 4. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 5. MCRP 3-17.7C Carpentry
- 6. MCRP 3-17.7D Concrete and Masonry
- 7. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 8. MCRP 3-17.7F Project Management
- 9. MCRP 3-17.7I Earthmoving Operations
- 10. MCRP 3-17.7K Theater of Operations Electrical Systems
- 11. MCRP 3-17.7L Explosives and Demolitions
- 12. MCRP 3-17A Engineering Field Data
- 13. MCRP 4-11.1D Field Hygiene and Sanitation
- 14. MCWP 3-17 Engineering Operations
- 15. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 16. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 17. MCWP 3-41.1 Rear Area Operations
- 18. MCWP 4-1 Logistics Operations
- 19. MCWP 4-11 Tactical-Level Logistics
- 20. TM 5-232 Elements of Construction Surveying

### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

**EQUIPMENT:** Engineer Earthmoving equipment, Material Handling equipment, Combat engineer equipment, Utilities equipment

# 5006. 3000-LEVEL EVENTS

CLB-CMOB-3001: Employ explosive obstacles

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Position an explosive obstacle to turn, block, fix, or disrupt

enemy movement or maneuver of personnel or equipment.

**CONDITION:** Given an operations order, personnel, demolitions material, engineer equipment, and personal protective equipment.

**STANDARD:** To turn, block, fix, or disrupt the enemy in accordance with the concept of operations and commander's intent.

#### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Prepare site.
- 3. Build the explosive obstacle (if required).
- 4. Emplace explosive obstacle.
- 5. Recover as required.
- 6. Submit required reports.

### RELATED EVENTS:

| 1302-CMOB-1001 | 1302-CMOB-1002 | 1310-ADMN-2002 |
|----------------|----------------|----------------|
| 1310-ADMN-2006 | 1310-ADMN-2009 | 1310-ADMN-2010 |
| 1310-HEOP-2001 | 1310-MANT-2002 | 1345-ADMN-1002 |
| 1345-ADMN-2002 | 1345-HEOP-1003 | 1345-HEOP-1004 |
| 1345-HEOP-1005 | 1345-HEOP-1006 | 1345-HEOP-2009 |
| 1345-MANT-1001 | 1349-ADMN-2002 | 1349-ADMN-2006 |
| 1349-ADMN-2009 | 1349-ADMN-2010 | 1349-HEOP-2001 |
| 1349-MANT-2002 | 1371-CMOB-1003 | 1371-CMOB-2001 |
| 1371-CMOB-2003 | 1371-DEMO-1002 |                |

#### SUPPORT REQUIREMENTS:

## ORDNANCE:

| DODIC                                     | Quantity               |
|-------------------------------------------|------------------------|
| J007 Mine, Antipersonnel M18A 1 with Non- | 2 mines per Team       |
| L598 Simulator, Explosive Booby Trap Flas | 10 Simulator per Team  |
| M023 Charge, Demolition Block M112 1-1/4  | 20 charges per Team    |
| M032 Charge, Demolition Block TNT 1-Pound | 6 charges per Team     |
| M327 Coupling Base, Firing Device with Pr | 10 primers per Team    |
| M456 Cord, Detonating PETN Type I Class E | 1000 FT per Team       |
| ML03 Firing Device, Demolition Multi-Purp | 10 detonators per Team |

#### RANGE/TRAINING AREA:

Facility Code 17830 Light Demolition Range Facility Code 17905 Mine Warfare Area

EQUIPMENT: PPE, Combat engineer equipment, tools and kits

MATERIAL: Class IV material.

UNITS/PERSONNEL: Range Safety officer, Corpsman

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this

event.

CLB-CMOB-3002: Build non-explosive obstacles

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 3 months

<u>DESCRIPTION</u>: Build non-explosive obstacles to, block, fix, or disrupt the enemy. Typical examples are: Wire, Tank ditches, Log cribs, Steel H beam post obstacles, falling or tumble blocks, Dragon's teeth, hedgehogs, tetrahedrons and non-explosive abatis.

<u>CONDITION</u>: Given a mission, commander's intent, location to emplace the obstacle, task organized personnel and equipment, and resources (Class IV, V, natural terrain, battlefield materials, etc.).

**STANDARD:** To, block, fix, or disrupt the enemy in accordance with the commander's intent and concept of operations.

### **EVENT COMPONENTS:**

- 1. Review mission and schematics.
- 2. Determine actual work sequence.
- 3. Coordinate logistical requirements.
- 4. Coordinate overwatch/security for obstacle construction.
- 5. Move to obstacle site.
- 6. Tie obstacles into natural/existing obstacles as required.
- Construct/place mobility obstacles (barriers, hedgehogs, etc.) as required.
- 8. Construct wire obstacles as required.
- 9. Construct/place field expedient obstacles (logs, abatis, rubble, etc.) as required.
- 10. Construct/create phony obstacles as required.
- 11. Construct tank ditches as required.
- 12. Submit required reports.

#### RELATED EVENTS.

| KELAIED EVENIS: |                |                |
|-----------------|----------------|----------------|
| 1302-CMOB-1001  | 1302-CMOB-1002 | 1310-ADMN-2009 |
| 1310-ADMN-2010  | 1310-HEOP-2001 | 1310-MANT-2002 |
| 1316-ADMN-1001  | 1316-ADMN-1002 | 1316-ADMN-2001 |
| 1316-ADMN-2002  | 1316-XENG-1001 | 1316-XENG-1006 |
| 1316-XENG-2002  | 1345-ADMN-2002 | 1345-HEOP-1003 |
| 1345-HEOP-1004  | 1345-HEOP-1005 | 1345-HEOP-1006 |
| 1345-HEOP-1007  | 1345-HEOP-2012 | 1345-MANT-1001 |
| 1345-MANT-2001  | 1345-MANT-2003 | 1345-MANT-2004 |
| 1349-ADMN-2002  | 1349-ADMN-2004 | 1349-ADMN-2009 |
| 1349-ADMN-2009  | 1349-ADMN-2010 | 1349-HEOP-2001 |
| 1349-MANT-2002  | 1371-CMOB-1001 | 1371-CMOB-2001 |
| 1371-CMOB-2003  |                |                |
|                 |                |                |

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration

- 3. UNIT SOP Unit's Standing Operating Procedures
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 8. MCWP 3-1 Ground Combat Operations
- 9. MCWP 3-13.2 MINE WARFARE
- 10. MCWP 3-17 Engineering Operations
- 11. MCWP 3-17.1 Combined Arms Gap-Crossing Operations
- 12. MCWP 3-17.4 Engineer Reconnaissance
- 13. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 14. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

### SUPPORT REQUIREMENTS:

#### ORDNANCE

| 13111102                                  |                          |
|-------------------------------------------|--------------------------|
| DODIC                                     | Quantity                 |
| L495 Flare, Surface Trip M49 Series       | 2 flares per Team        |
| M032 Charge, Demolition Block TNT 1-Pound | 4 charges per Team       |
| M039 Charge, Demolition Cratering 40-Poun | 4 charges per Team       |
| M130 Cap, Blasting Electric M6            | 6 blasting caps per Team |
| M131 Cap, Blasting Non-Electric M7        | 6 blasting caps per Team |
| M327 Coupling Base, Firing Device with Pr | 6 primers per Team       |
| M421 Charge, Demolition Shaped M3 Series  | 4 charges per Team       |
| M456 Cord, Detonating PETN Type I Class E | 250 FT per Team          |
| M591 Dynamite, Military M1                | 6 charges per Team       |
| M670 Fuse, Blasting Time M700             | 125 FT per Team          |
| M757 Charge, Assembly Demolition M183 Com | 2 cases per Team         |
| ML03 Firing Device, Demolition Multi-Purp | 4 detonators per Team    |
| MN08 Igniter, Time Blasting Fuse with Sho | 6 igniters per Team      |
| MN14 Firing Device, Dual Mode MK54        | 4 detonators per Team    |
| MN52 MK154 Mod 0                          | 10 igniters per Team     |
|                                           |                          |

#### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CLB-CMOB-3003: Construct demolition obstacles

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 3 months

**<u>DESCRIPTION</u>**: Employ expedient anti-personnel devices and explosive hazards as explosive obstacles.

**CONDITION:** Given an operations order, personnel, demolitions material, engineer equipment, and while wearing fighting load.

STANDARD: To support the defensive concept of operations.

#### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Prepare site.
- 3. Build the explosive obstacle.
- 4. Submit required reports.

### RELATED EVENTS:

| 1302-CMOB-1001 | 1302-CMOB-1003 | 1302-DEMO-1001 |
|----------------|----------------|----------------|
| 1302-DEMO-1002 | 1371-CMOB-1003 | 1371-DEMO-1001 |

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data
- 6. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 7. MCWP 3-13.2 MINE WARFARE
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 11. Unit SOP Unit's Standing Operating Procedures

### SUPPORT REQUIREMENTS:

### ORDNANCE:

| DODIC                                     | Quantity                 |
|-------------------------------------------|--------------------------|
| M023 Charge, Demolition Block M112 1-1/4  | 10 charges per Team      |
| M030 Charge, Demolition Block TNT 1/4-Pou | 4 charges per Team       |
| M130 Cap, Blasting Electric M6            | 4 blasting caps per Team |
| M131 Cap, Blasting Non-Electric M7        | 4 blasting caps per Team |
| M456 Cord, Detonating PETN Type I Class E | 1000 FT per Team         |
| ML03 Firing Device, Demolition Multi-Purp | 4 detonators per Team    |

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

**EQUIPMENT:** PPE

UNITS/PERSONNEL: Range Safety officer, Corpsman

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CLB-DEMO-3001: Destroy captured arms and ammunition with demolitions

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Destroy captured arms and ammunition with demolitions to ensure destruction. Examples include: confined gaseous, liquid, and solid propellants; explosives; pyrotechnics; chemical and riot-control agents; smokes and incendiaries (including bulk explosives); chemical warfare agents; chemical munitions; rockets; guided and ballistic missiles; bombs; warheads; mortar rounds; artillery ammunition; small arms ammunition; grenades; mines; torpedoes; depth charges; cluster munitions and dispensers; demolition charges; and devices and components of the above.

**CONDITION:** Given a tactical situation, demolition target, demolitions, task organized personnel, demolition tools, equipment, and references.

**STANDARD:** To ensure destruction of target per commander's intent and mission requirements.

### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Coordinate with supporting unit (EOD) as required.
- 3. Prepare equipment as required.
- 4. Move to demolition site.
- 5. Prepare charge for demolition.
- 6. Set charge.
- 7. Establish safety zone.
- 8. Detonate explosive.
- 9. Verify destruction of arms and ammunition.
- 10. Submit required reports.

## RELATED EVENTS:

1302-DEMO-1004 1302-MOBL-1003 1371-MOBL-2023

#### **REFERENCES:**

- 1. GTA 5-10-33 Demolition Card
- 2. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 3-17 Engineering Operations

#### SUPPORT REQUIREMENTS:

### ORDNANCE:

| DODIC                                     | Quantity                 |
|-------------------------------------------|--------------------------|
| M028 Demolition Kit, Bangalore Torpedo M1 | 1 cases per Team         |
| M032 Charge, Demolition Block TNT 1-Pound | 3 charges per Team       |
| M039 Charge, Demolition Cratering 40-Poun | 3 charges per Team       |
| M130 Cap, Blasting Electric M6            | 5 blasting caps per Team |
| M131 Cap, Blasting Non-Electric M7        | 5 blasting caps per Team |

M420 Charge, Demolition Shaped M2 Series 1 charges per Team M456 Cord, Detonating PETN Type I Class E 250 FT per Team M591 Dynamite, Military M1 6 charges per Team M670 Fuse, Blasting Time M700 150 FT per Team M757 Charge, Assembly Demolition M183 Com 1 cases per Team M982 Charge, Demolition Sheet 0.161 Inch 6 FT per Team MM30 Charge, Flexible 20 Gram PETN MK140 4 charges per Team MM44 Charge, Demolition Flexible Linear S 1 charges per Team MM45 Charge, Demolition Flexible Linear S 1 charges per Team MM47 Charge, Demolition Flexible Linear S 1 charges per Team MM48 Charge, Demolition Flexible Linear S 1 charges per Team MN08 Igniter, Time Blasting Fuse with Sho 15 igniters per Team

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

**EQUIPMENT:** PPE

UNITS/PERSONNEL: Range Safety officer, Corpsman

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

<u>CLB-DEMO-3002</u>: Destroy bridge with demolitions

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Destroy bridge with demolitions which results in either a gap that exceeds the enemy's assault bridging capability by 5 meters, or that leaves demolished components which are unable to provide sufficient bearing capacity for enemy assault breaching assets.

**CONDITION:** Given a tactical situation, demolition target, demolitions, task organized personnel, demolition tools, equipment, and references.

 $\underline{\mathtt{STANDARD}} \colon$  To ensure destruction of target per commander's intent and mission requirements.

- 1. Coordinate with supported unit.
- 2. Coordinate with supporting unit (EOD) as required.
- 3. Prepare equipment as required.
- 4. Move to demolition site.
- 5. Prepare charge for demolition.
- 6. Set charge.
- 7. Establish safety zone.
- 8. Detonate explosive.
- 9. Verify destruction of bridge.

10. Submit required reports.

### RELATED EVENTS:

 1302-DEMO-1001
 1302-DEMO-1002
 1302-MOBL-1007

 1371-CMOB-2004
 1371-DEMO-1001
 1371-DEMO-2015

### **REFERENCES:**

- 1. GTA 5-10-33 Demolition Card
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations

### SUPPORT REQUIREMENTS:

### ORDNANCE:

| DODIC                                     | Quantity                 |
|-------------------------------------------|--------------------------|
| M028 Demolition Kit, Bangalore Torpedo M1 | 1 cases per Team         |
| M032 Charge, Demolition Block TNT 1-Pound | 3 charges per Team       |
| M039 Charge, Demolition Cratering 40-Poun | 3 charges per Team       |
| M130 Cap, Blasting Electric M6            | 5 blasting caps per Team |
| M131 Cap, Blasting Non-Electric M7        | 5 blasting caps per Team |
| M420 Charge, Demolition Shaped M2 Series  | 1 charges per Team       |
| M456 Cord, Detonating PETN Type I Class E | 250 FT per Team          |
| M591 Dynamite, Military M1                | 6 charges per Team       |
| M670 Fuse, Blasting Time M700             | 150 FT per Team          |
| M757 Charge, Assembly Demolition M183 Com | 1 cases per Team         |
| M982 Charge, Demolition Sheet 0.161 Inch  | 6 FT per Team            |
| MM30 Charge, Flexible 20 Gram PETN MK140  | 4 charges per Team       |
| MM44 Charge, Demolition Flexible Linear S | 1 charges per Team       |
| MM45 Charge, Demolition Flexible Linear S | 1 charges per Team       |
| MM47 Charge, Demolition Flexible Linear S | 1 charges per Team       |
| MM48 Charge, Demolition Flexible Linear S | 1 charges per Team       |
| MN08 Igniter, Time Blasting Fuse with Sho | 15 igniters per Team     |

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

**EQUIPMENT:** PPE

UNITS/PERSONNEL: Range Safety officer, Corpsman

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CLB-DEMO-3003: Destroy tunnel with demolitions

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Destroy tunnel with demolitions to ensure destruction of the tunnel.

**CONDITION:** Given a tactical situation, demolition target, demolitions, task organized personnel, demolition tools, equipment, and references.

**STANDARD:** To ensure destruction of target per commander's intent and mission requirements.

#### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Coordinate with supporting unit (EOD) as required.
- 3. Prepare equipment as required.
- 4. Move to demolition site.
- 5. Prepare charge for demolition.
- 6. Set charge.
- 7. Establish safety zone.
- 8. Detonate explosive.
- 9. Verify destruction of tunnel.
- 10. Submit required reports.

#### RELATED EVENTS:

| 1302-DEMO-1001 | 1302-DEMO-1002 | 1302-DEMO-1003 |
|----------------|----------------|----------------|
| 1302-MOBL-1007 | 1371-DEMO-1001 | 1371-DEMO-2001 |
| 1371-DEMO-2002 |                |                |

## REFERENCES:

- 1. GTA 5-10-33 Demolition Card
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations

# SUPPORT REQUIREMENTS:

# **ORDNANCE:**

| DODIC                                     | Quantity                 |
|-------------------------------------------|--------------------------|
| M028 Demolition Kit, Bangalore Torpedo M1 | 1 cases per Team         |
| M032 Charge, Demolition Block TNT 1-Pound | 3 charges per Team       |
| M039 Charge, Demolition Cratering 40-Poun | 3 charges per Team       |
| M130 Cap, Blasting Electric M6            | 5blasting caps per Team  |
| M131 Cap, Blasting Non-Electric M7        | 5 blasting caps per Team |
| M420 Charge, Demolition Shaped M2 Series  | 1 charges per Team       |
| M456 Cord, Detonating PETN Type I Class E | 250 FT per Team          |
| M591 Dynamite, Military M1                | 6 charges per Team       |
| M670 Fuse, Blasting Time M700             | 150 FT per Team          |
| M757 Charge, Assembly Demolition M183 Com | 1 cases per Team         |
| M982 Charge, Demolition Sheet 0.161 Inch  | 6 FT per Team            |
| MM30 Charge, Flexible 20 Gram PETN MK140  | 4 charges per Team       |
| MM44 Charge, Demolition Flexible Linear S | 1 charges per Team       |
| MM45 Charge, Demolition Flexible Linear S | 1 charges per Team       |

MM47 Charge, Demolition Flexible Linear S 1 charges per Team MM48 Charge, Demolition Flexible Linear S 1 charges per Team MN08 Igniter, Time Blasting Fuse with Sho 15 igniters per Team

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

**EQUIPMENT:** PPE

UNITS/PERSONNEL: Range Safety officer, Corpsman

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CLB-DEMO-3004: Destroy building with demolitions

# SUPPORTED MCT(S):

MCT 4.4.1.1 MCT 4.4.2.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: Destroy building with demolitions to ensure destruction of the building.

**CONDITION:** Given a tactical situation, demolition target, demolitions, task organized personnel, demolition tools, equipment, and references.

**STANDARD:** To ensure destruction of target per commander's intent and mission requirements.

# **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Coordinate with supporting unit (EOD) as required.
- 3. Prepare equipment as required.
- 4. Move to demolition site.
- 5. Prepare charge for demolition.
- 6. Set charge.
- 7. Establish safety zone.
- 8. Detonate explosive.
- 9. Verify destruction of building.
- 10. Submit required reports.

### RELATED EVENTS:

1302-DEMO-1001 1302-DEMO-1002 1302-DEMO-2001 1302-MOBL-1007 1371-DEMO-1001

- 1. GTA 5-10-33 Demolition Card
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions

- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations

#### ORDNANCE:

| RDNANCE:                                  |                          |
|-------------------------------------------|--------------------------|
| DODIC                                     | <u>Quantity</u>          |
| M028 Demolition Kit, Bangalore Torpedo M1 | 1 cases per Team         |
| M032 Charge, Demolition Block TNT 1-Pound | 3 charges per Team       |
| M039 Charge, Demolition Cratering 40-Poun | 3 charges per Team       |
| M130 Cap, Blasting Electric M6            | 5 blasting caps per Team |
| M131 Cap, Blasting Non-Electric M7        | 5 blasting caps per Team |
| M420 Charge, Demolition Shaped M2 Series  | 1 charges per Team       |
| M456 Cord, Detonating PETN Type I Class E | 250 FT per Team          |
| M591 Dynamite, Military M1                | 6 charges per Team       |
| M670 Fuse, Blasting Time M700             | 150 FT per Team          |
| M757 Charge, Assembly Demolition M183 Com | 1 cases per Team         |
| M982 Charge, Demolition Sheet 0.161 Inch  | 6 FT per Team            |
| MM30 Charge, Flexible 20 Gram PETN MK140  | 4 charges per Team       |
| MM44 Charge, Demolition Flexible Linear S | 1 charges per Team       |
| MM45 Charge, Demolition Flexible Linear S | 1 charges per Team       |
| MM47 Charge, Demolition Flexible Linear S | 1 charges per Team       |
| MM48 Charge, Demolition Flexible Linear S | 1 charges per Team       |
| MN08 Igniter, Time Blasting Fuse with Sho | 15 igniters per Team     |
|                                           |                          |

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

**EQUIPMENT:** 260 CFM, PPE.

UNITS/PERSONNEL: Range Safety officer, Corpsman

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CLB-FUEL-3001: Operate bulk fuel distribution site

SUPPORTED MCT(S): MCT 4.4.3.1

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

**DESCRIPTION:** Employ bulk fuel systems, to include: SixCon pump and tank module and Expedient Refueling System (ERS) to establish a bulk fuel site.

**CONDITION:** With a bulk fuel distribution plan, bulk fuel supply, distribution system, safety equipment and personnel.

**STANDARD:** To dispense fuel to using units in order to meet mission requirements.

## **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Dispense fuel as required.
- 3. Receive fuel resupply as required.
- 4. Produce reports as required.
- 5. Recover system as required.

## RELATED EVENTS:

| 1310-ADMN-2009 | 1310-ADMN-2010 | 1310-HEOP-2001 |
|----------------|----------------|----------------|
| 1310-MANT-2002 | 1345-HEOP-1001 | 1345-HEOP-1002 |
| 1345-HEOP-1003 | 1345-HEOP-1006 | 1345-MANT-1001 |
| 1349-ADMN-2009 | 1349-ADMN-2010 | 1349-HEOP-2001 |
| 1349-MANT-2002 | 1391-XENG-1001 | 1391-XENG-1002 |
| 1391-XENG-1004 | 1391-XENG-1005 | 1391-XENG-1006 |
| 1391-XENG-1007 | 1391-XENG-1008 | 1391-XENG-1009 |
| 1391-XENG-1011 | 1391-XENG-1012 | 1391-XENG-1013 |
| 1391-XENG-1014 | 1391-XENG-1015 |                |

#### REFERENCES:

- 1. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 2. MIL STD 3004 Quality Surveillance Handbook for Fuels, Lubricants and Related Products
- 3. TB 10-5430-253-13 Technical Bulletin for Collapsible Fabric Fuel tanks
- 4. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

### SUPPORT REQUIREMENTS:

#### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17933 POL Training Area

**EQUIPMENT:** Engineer earthmoving equipment, Material Handling Equipment, Utilities equipment, Bulk fuel equipment, Motor Transport equipment, Engineer lifting equipment, Tactical communications equipment.

MATERIAL: Class III/IV

<u>CLB-FUEL-3002</u>: Provide tactical bulk fuel storage

SUPPORTED MCT(S): MCT 4.4.3.1

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

**DESCRIPTION:** Provide tactical bulk fuel storage.

**CONDITION:** Given fuel, equipment, personnel and references.

STANDARD: To ensure Days of Supply (DOS) are maintained.

# **EVENT COMPONENTS:**

- 1. Receive fuel.
- 2. Inventory stored fuel.
- 3. Test stored fuel for quality control measures.

- 4. Measure fuel by metering or/and gauging.
- 5. Submit reports as required.

# RELATED EVENTS:

| 1391-XENG-1006 | 1391-XENG-1007 | 1391-XENG-1008 |
|----------------|----------------|----------------|
| 1391-XENG-1009 | 1391-XENG-1011 | 1391-XENG-1012 |
| 1391-XENG-1013 | 1391-XENG-1014 |                |

#### **REFERENCES:**

- 1. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 2. TB 10-5430-253-13 Technical Bulletin for Collapsible Fabric Fuel tanks
- 3. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17933 POL Training Area

EQUIPMENT: Bulk fuel equipment, PPE.

MATERIAL: Class III/IV

CLB-HEOP-3001: Provide crane support

SUPPORTED MCT(S): MCT 4.3.6

**EVALUATION-CODED:** YES **SUSTAINMENT INTERVAL:** 6 months

**DESCRIPTION:** Employ organic crane assets, to include: ATC 50-ton and LRT 110 7-ton cranes.

CONDITION: Given an operations order, personnel, and engineer equipment.

STANDARD: To support mission requirements.

# **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Prepare equipment for operation.
- 3. Move to site.
- 4. Establish safety zone.
- 5. Deploy safety measures for equipment.
- 6. Conduct lift of material.
- 7. Displace equipment as required.
- 8. Submit required reports.

#### **RELATED EVENTS:**

| 1310-ADMN-2002 | 1310-ADMN-2006 | 1310-ADMN-2007 |
|----------------|----------------|----------------|
| 1310-ADMN-2010 | 1310-HEOP-2001 | 1310-MANT-2002 |
| 1345-ADMN-2002 | 1345-HEOP-2002 | 1345-HEOP-2003 |
| 1345-MANT-2001 | 1349-ADMN-2002 | 1349-ADMN-2006 |
| 1349-ADMN-2007 | 1349-ADMN-2010 | 1349-HEOP-2001 |
| 1349-MANT-2002 |                |                |
|                |                |                |

#### **REFERENCES:**

- 1. Local Standard Operating Procedures (SOP)
- 2. Applicable technical references

## SUPPORT REQUIREMENTS:

## RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces

# MISCELLANEOUS:

 $\underline{\text{ADMINISTRATIVE INSTRUCTIONS}}$ : Personnel operating cranes are required to be licensed on the equipment operating.

CLB-HEOP-3002: Provide Material Handling Equipment (MHE) support

**SUPPORTED MCT(S):** MCT 4.3.6

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Provide Material Handling Equipment (MHE) support to the GCE and CLB utilizing the required type(s) of engineer equipment and personnel.

CONDITION: Given an operations order, personnel, and engineer equipment.

**STANDARD:** To support mission requirements.

## **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Prepare equipment for operation.
- 3. Move to site.
- 4. Establish safety zone.
- 5. Deploy safety measures for equipment.
- 6. Conduct lift of material.
- 7. Displace equipment as required.
- 8. Submit required reports.

# RELATED EVENTS:

| 1310-ADMN-2002 | 1310-ADMN-2006 | 1310-ADMN-2009 |
|----------------|----------------|----------------|
| 1310-ADMN-2010 | 1310-HEOP-2001 | 1310-MANT-2002 |
| 1345-ADMN-1002 | 1345-HEOP-1001 | 1345-HEOP-1002 |
| 1345-HEOP-1003 | 1345-HEOP-2009 | 1345-MANT-1001 |
| 1349-ADMN-2006 | 1349-ADMN-2009 | 1349-ADMN-2010 |
| 1349-HEOP-2001 | 1349-MANT-2002 |                |

- 1. Local Standard Operating Procedures (SOP)
- 2. Applicable technical references

# RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces

CLB-HEOP-3003: Provide earth moving equipment support

SUPPORTED MCT(S): MCT 4.3.6

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Provide limited earth moving equipment support to the mission utilizing the required type(s) of engineer equipment and personnel.

CONDITION: Given an operations order, personnel, and engineer equipment.

STANDARD: To support mission requirements.

#### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Prepare equipment for operation.
- 3. Move to site.
- 4. Establish safety zone.
- 5. Deploy safety measures for equipment.
- 6. Conduct combined earthmoving operations.
- 7. Displace equipment as required.
- 8. Submit required reports.

#### **RELATED EVENTS:**

| 1310-ADMN-2002 | 1310-ADMN-2006 | 1310-ADMN-2009 |
|----------------|----------------|----------------|
| 1310-ADMN-2010 | 1310-HEOP-2001 | 1310-MANT-2002 |
| 1345-ADMN-1002 | 1345-HEOP-1003 | 1345-HEOP-1004 |
| 1345-HEOP-1005 | 1345-HEOP-1006 | 1345-HEOP-1007 |
| 1345-HEOP-2004 | 1345-HEOP-2005 | 1345-HEOP-2006 |
| 1345-HEOP-2008 | 1345-HEOP-2009 | 1345-MANT-1001 |
| 1349-ADMN-2002 | 1349-ADMN-2006 | 1349-ADMN-2009 |
| 1349-ADMN-2010 | 1349-HEOP-2001 | 1349-MANT-2002 |

# REFERENCES:

- 1. Local Standard Operating Procedures (SOP)
- 2. Applicable technical references

# SUPPORT REQUIREMENTS:

# RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces

CLB-HORZ-3001: Conduct dust abatement

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 3 months

**<u>DESCRIPTION</u>**: Employ a dust palliative with the assistance of organic engineer assets.

**CONDITION:** Given an operations order, personnel, engineer equipment, and materials.

**STANDARD:** To mitigate the effects of wind-blown dust on combatants and combat equipment that meets or exceeds commander's intent and supports the concept of operations.

#### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit, as required.
- 2. Conduct survey and visibly establish area to be treated.
- 3. Determine soil composition.
- 4. Determine dust palliative product.
- 5. Determine dust palliative product quantity.
- 6. Determine dust palliative product application equipment.
- 7. Determine dust palliative application guidance (Helipads / Roads / Base Camps) as required.
- 8. Prepare equipment for operation.
- 9. Move to site.
- 9. Don PPE, as required.
- 10. Incorporate Admix Methods (Grade / Spray / Blend / Compact / Spray), as
   required.
- 11. Clean and maintain equipment after operation.
- 12. Monitor cure time, as required.

## RELATED EVENTS:

| 1310-ADMN-2002 | 1310-ADMN-2009 | 1310-ADMN-2010 |
|----------------|----------------|----------------|
| 1310-HEOP-2001 | 1310-HORZ-2001 | 1310-HORZ-2002 |
| 1310-HORZ-2003 | 1310-MANT-2002 | 1345-HEOP-1007 |
| 1345-HEOP-2008 | 1349-HORZ-2002 | 1349-HORZ-2003 |
| 1349-MANT-2002 |                |                |

#### REFERENCES:

- 1. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 2. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 3. MCRP 3-17.7I Earthmoving Operations
- 4. MCWP 3-17 Engineering Operations
- 5. Dust Abatement Handbook

### SUPPORT REQUIREMENTS:

### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17918 Road/Airfield Construction Training Site

**EQUIPMENT:** Engineer Earthmoving and Material Handling equipment

CLB-MANT-3001: Maintain engineer equipment

SUPPORTED MCT(S): MCT 4.2.2.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Maintain engineer equipment by conducting preventive and corrective maintenance on engineer equipment using unit assigned maintenance levels.

**CONDITION:** With equipment, tools, repair parts, supplies, personnel and references.

**STANDARD:** To sustain equipment in an operational status at or above unit's readiness requirements.

## **EVENT COMPONENTS:**

- 1. Monitor equipment readiness.
- 2. Conduct reconciliation.
- 3. Assign tasks.
- 4. Maintain organic tactical engineer equipment.
- 5. Manage maintenance programs.
- 6. Submit required reports.

### RELATED EVENTS:

| KEDAID BVERIO. |                |                |
|----------------|----------------|----------------|
| 1310-ADMN-2002 | 1310-ADMN-2003 | 1310-ADMN-2004 |
| 1310-ADMN-2005 | 1310-ADMN-2008 | 1310-MANT-2001 |
| 1316-ADMN-1001 | 1316-ADMN-1002 | 1316-ADMN-1003 |
| 1316-ADMN-2001 | 1316-ADMN-2002 | 1316-MANT-1002 |
| 1316-MANT-1004 | 1316-XENG-1001 | 1316-XENG-1002 |
| 1316-XENG-1004 | 1316-XENG-1005 | 1316-XENG-1006 |
| 1341-ADMN-1001 | 1341-ADMN-1002 | 1341-ADMN-2001 |
| 1341-ADMN-2002 | 1341-ADMN-2003 | 1341-ADMN-2004 |
| 1341-MANT-1001 | 1341-MANT-1002 | 1341-MANT-1003 |
| 1341-MANT-1004 | 1341-MANT-1005 | 1341-MANT-1006 |
| 1341-MANT-1007 | 1341-MANT-1008 | 1341-MANT-1009 |
| 1341-MANT-1010 | 1341-MANT-2009 | 1341-MANT-2010 |
| 1345-ADMN-1002 | 1345-MANT-1001 | 1345-MANT-2001 |
| 1345-MANT-2002 | 1349-ADMN-2001 | 1349-ADMN-2002 |
| 1349-ADMN-2003 | 1349-ADMN-2004 | 1349-ADMN-2008 |
| 1349-MANT-2001 | 1349-MANT-2002 | 1371-MANT-1001 |
| 1371-MANT-2002 |                |                |
|                |                |                |

- 1. DoDI 6055.1 DoD Safety and Occupational Health (SOH) Program
- 2. EMC Electric Motor Controls by American Technical Publishers, Inc.
- 3. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 4. MCO 4733.1\_ Marine Corps Test, Measurement, and Diagnostics Equipment (TMDE) Calibration and Maintenance Program (CAMP)
- 5. MCO 4790.18\_ Corrosion Prevention and Control (CPAC) Program
- 6. MCO 5100.29\_ Marine Corps Safety Program
- 7. MCO P4790.2\_ MIMMS Field Procedures Manual
- 8. SOP Standard Operating Procedures (SOP)

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light

Forces

**EQUIPMENT:** Engineer tools, sets, kits.

CLB-MANT-3002: Maintain tactical power distribution system

SUPPORTED MCT(S): MCT 4.2.2.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: Maintain equipment to ensure the safe distribution of electrical power to meet mission requirements.

**CONDITION:** With a Preventive Maintenance Checks and Service (PMCS) Schedule, testing equipment, tools, and personnel.

STANDARD: To ensure the equipment is safe and operational.

# **EVENT COMPONENTS:**

- 1. Review PMCS schedule, as required.
- 2. Induct equipment into maintenance cycle.
- 3. Conduct preventive maintenance, as required.
- 4. Conduct corrective maintenance, as required.
- 5. Complete modifications, as required.
- 6. Ground system, as required.
- 7. Electrically energize system, as required.
- 8. Diagnose malfunction, as required.
- 9. Requisition repair parts, as required.
- 10. Install repair parts, as required.
- 11. Test system.
- 12. Complete quality control requirements.
- 13. Complete administrative maintenance requirements.

# RELATED EVENTS:

| RELATED EVENTS: |                |                |
|-----------------|----------------|----------------|
| 1141-ADMN-1002  | 1141-ADMN-1006 | 1141-ADMN-1008 |
| 1141-ADMN-1010  | 1141-ADMN-1011 | 1141-ADMN-2073 |
| 1141-MANT-1101  | 1141-MANT-1224 | 1141-MANT-1324 |
| 1141-MANT-1424  | 1141-MANT-2191 | 1141-MANT-2244 |
| 1141-MANT-2344  | 1141-MANT-2444 | 1141-XENG-1601 |
| 1141-XENG-1703  | 1142-ADMN-1006 | 1142-ADMN-1008 |
| 1142-ADMN-1010  | 1142-ADMN-1011 | 1142-ADMN-2073 |
| 1142-MANT-1101  | 1142-MANT-1106 | 1142-MANT-1108 |
| 1142-MANT-1109  | 1142-MANT-1142 | 1142-MANT-1351 |
| 1142-MANT-1451  | 1142-MANT-1466 | 1142-MANT-1467 |
| 1142-MANT-1468  | 1142-MANT-1469 | 1142-MANT-1493 |
| 1142-MANT-2191  | 1142-MANT-2308 | 1142-MANT-2309 |
| 1142-MANT-2318  | 1142-MANT-2354 | 1142-MANT-2365 |
| 1142-MANT-2408  | 1142-MANT-2409 |                |
|                 |                |                |

#### **REFERENCES:**

- 1. MCO P4790.2\_ MIMMS Field Procedures Manual
- 2. MCRP 3-17.7K Theater of Operations Electrical Systems
- 3. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Multi-meter, tools, power generation equipment, PPE.

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS:</u> This task includes conducting maintenance on generators, MEPDIS and MEPDIS-R.

CLB-MANT-3003: Maintain water purification equipment

SUPPORTED MCT(S): MCT 4.2.2.4

**EVALUATION-CODED:** YES **SUSTAINMENT INTERVAL:** 6 months

**DESCRIPTION:** Manage and conduct preventive and corrective maintenance on water purification equipment to meet mission requirements and commander's intent.

**CONDITION:** With equipment, tools, repair parts, supplies, personnel and references.

**STANDARD:** To sustain equipment in an operational status at or above units' readiness requirements.

# **EVENT COMPONENTS:**

- 1. Conduct operational checks and services.
- 2. Conduct Limited Technical Inspections (LTI).
- 3. Open service request (GCSS-MC).
- 4. Order repair parts.
- 5. Install repair parts.
- 6. Complete modifications, as required.
- 7. Perform operational checks.
- 8. Complete quality control requirements.
- 9. Complete administrative maintenance requirements.

# RELATED EVENTS:

| 1142-ADMN-2073 | 1142-MANT-1101                   |
|----------------|----------------------------------|
| 1142-MANT-1108 | 1142-MANT-1109                   |
| 1142-MANT-1493 | 1142-MANT-2191                   |
| 1171-ADMN-1006 | 1171-ADMN-1007                   |
|                | 1142-MANT-1108<br>1142-MANT-1493 |

| 1171-ADMN-1008 | 1171-ADMN-1010 | 1171-ADMN-1011 |
|----------------|----------------|----------------|
| 1171-ADMN-2071 | 1171-ADMN-2072 | 1171-ADMN-2073 |
| 1171-MANT-1233 | 1171-MANT-1248 | 1171-MANT-1271 |
| 1171-MANT-1272 | 1171-MANT-1274 | 1171-MANT-1277 |
| 1171-MANT-1278 | 1171-MANT-1279 | 1171-MANT-1280 |
| 1171-MANT-1282 | 1171-MANT-1284 | 1171-MANT-1285 |
| 1171-MANT-1333 | 1171-MANT-1348 | 1171-MANT-1371 |
| 1171-MANT-1372 | 1171-MANT-1374 | 1171-MANT-1379 |
| 1171-MANT-1382 | 1171-MANT-1433 | 1171-MANT-1441 |
| 1171-MANT-1448 | 1171-MANT-1471 | 1171-MANT-1472 |
| 1171-MANT-1474 | 1171-MANT-1478 | 1171-MANT-1482 |
| 1171-MANT-1484 | 1171-MANT-1485 | 1171-MANT-2101 |
| 1171-MANT-2191 | 1171-MANT-2396 | 1171-MANT-2397 |

#### REFERENCES:

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TM 09476B-13/1 Operator, Unit, and Direct Support Maintenance Manual for Hypochlorination Unit
- 4. TM 09476B-23P/2 Unit and Direct Support Maintenance Repair Parts and Special Tools List for Hypochlorination Unit
- 5. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17924 Water Supply Training Area

**EQUIPMENT:** Utilities equipment, Engineer Material Handling Equipment, appropriate tools and kits

MATERIAL: POLs as required

CLB-MANT-3004: Maintain hygiene equipment

SUPPORTED MCT(S): MCT 4.2.2.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Manage and conduct preventive and corrective maintenance on water support equipment to meet mission requirements and commander's intent.

**CONDITION:** With equipment, tools, repair parts, supplies, personnel and references.

**STANDARD:** To sustain equipment in an operational status at or above units readiness requirements.

## **EVENT COMPONENTS:**

- 1. Conduct operational checks and services.
- 2. Conduct Limited Technical Inspection (LTI).

- 3. Open service request (GCSS-MC).
- 4. Order Repair Parts.
- 5. Install Repair Parts.
- 6. Complete modifications, as required.
- 7. Perform operational checks.
- 8. Complete quality control requirements.
- 9. Complete maintenance administrative requirements.

#### RELATED EVENTS:

| 1142-MANT-1101 | 1142-MANT-1106 | 1142-MANT-1108 |
|----------------|----------------|----------------|
| 1142-MANT-1109 | 1142-MANT-1331 | 1142-MANT-1392 |
| 1142-MANT-1493 | 1142-MANT-2332 | 1142-MANT-2338 |
| 1142-MANT-2438 | 1171-ADMN-1006 | 1171-ADMN-1007 |
| 1171-ADMN-1008 | 1171-ADMN-1010 | 1171-ADMN-1011 |
| 1171-ADMN-2071 | 1171-ADMN-2072 | 1171-ADMN-2073 |
| 1171-MANT-1231 | 1171-MANT-1232 | 1171-MANT-1241 |
| 1171-MANT-1277 | 1171-MANT-1278 | 1171-MANT-1331 |
| 1171-MANT-1332 | 1171-MANT-1431 | 1171-MANT-1432 |
| 1171-MANT-1477 | 1171-MANT-1478 | 1171-MANT-2101 |
| 1171-MANT-2191 | 1171-MANT-2338 | 1171-MANT-2395 |
| 1171-MANT-2396 | 1171-MANT-2438 |                |

#### REFERENCES:

- 1. FM 10-52 Water Supply in Theaters of Operation
- 2. FM 10-52-1 Water Supply Point Equipment and Operations
- 3. MCWP 4-11.4 Maintenance Operations
- 4. MCWP 4-11.6 Petroleum and Water Logistics Operations

## SUPPORT REQUIREMENTS:

## RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17924 Water Supply Training Area

MATERIAL: Appropriate POLs as required

CLB-MANT-3005: Maintain refrigeration system(s)

SUPPORTED MCT(S): MCT 4.2.2.4

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**DESCRIPTION:** Conduct maintenance in order to sustain the refrigeration system(s) in operable status.

**CONDITION:** With equipment, tools, repair parts, supplies, personnel and references.

**STANDARD:** To sustain equipment in an operational status at or above units readiness requirements.

## **EVENT COMPONENTS:**

- 1. Conduct operational checks and services.
- 2. Conduct Limited Technical Inspection (LTI).
- 3. Open service request (GCSS-MC).
- 4. Order Repair Parts.
- 5. Install Repair Parts.
- 6. Complete Modifications as required.
- 7. Perform Operational Checks.
- 8. Complete quality control requirements.
- 9. Complete maintenance administrative requirements.

#### RELATED EVENTS:

| KETATED EVENTO. |                |                |
|-----------------|----------------|----------------|
| 1142-ADMN-1006  | 1142-ADMN-1008 | 1142-ADMN-1010 |
| 1142-ADMN-1011  | 1142-ADMN-2073 | 1142-MANT-1101 |
| 1142-MANT-1106  | 1142-MANT-1108 | 1142-MANT-1109 |
| 1142-MANT-1392  | 1142-MANT-1493 | 1142-MANT-2191 |
| 1142-MANT-2327  | 1161-ADMN-1006 | 1161-ADMN-1008 |
| 1161-ADMN-1010  | 1161-ADMN-1011 | 1161-ADMN-2073 |
| 1161-MANT-1101  | 1161-MANT-1102 | 1161-MANT-1103 |
| 1161-MANT-1104  | 1161-MANT-1106 | 1161-MANT-1107 |
| 1161-MANT-1108  | 1161-MANT-1109 | 1161-MANT-1235 |
| 1161-MANT-1335  | 1161-MANT-1402 | 1161-MANT-1404 |
| 1161-MANT-2191  |                |                |

#### **REFERENCES:**

- 1. 40 CFR 82 Chapter 40, Code of Federal Regulations, Part Number 82 (Protection of Stratospheric Ozone)
- 2. 42 USC 85 VI 7671 Title 42, United States Code, Chapter 85, Subchapter VI, Section 7671 (Ozone Protection)
- 3. MCO 5090.1 Chlorofluorocarbons (CFC's) and Halons
- 4. MCWP 4-11.4 Maintenance Operations
- 5. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

**EQUIPMENT:** Engineer Material Handling Equipment, power generation equipment, tools and kits.

CLB-MANT-3006: Maintain Environmental Control Units (ECU)

SUPPORTED MCT(S): MCT 4.2.2.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**CONDITION:** With equipment, tools, repair parts, supplies, personnel and references.

**STANDARD:** To sustain equipment in an operational status at or above units readiness requirements.

## **EVENT COMPONENTS:**

- 1. Conduct operational checks and services.
- 2. Conduct Limited Technical Inspection (LTI).
- 3. Open service request (GCSS-MC).
- 4. Order Repair Parts.
- 5. Install Repair Parts.
- 6. Complete Modifications as required.
- 7. Perform Operational Checks.
- 8. Complete quality control requirements.
- 9. Return administrative maintenance requirements.

#### RELATED EVENTS:

| 1142-ADMN-1006 | 1142-ADMN-1008 | 1142-ADMN-1010 |
|----------------|----------------|----------------|
| 1142-ADMN-1011 | 1142-ADMN-2073 | 1142-MANT-1101 |
| 1142-MANT-1106 | 1142-MANT-1108 | 1142-MANT-1109 |
| 1142-MANT-2191 | 1142-MANT-2311 | 1161-ADMN-1006 |
| 1161-ADMN-1008 | 1161-ADMN-1010 | 1161-ADMN-1011 |
| 1161-ADMN-2015 | 1161-ADMN-2016 | 1161-ADMN-2073 |
| 1161-MANT-1101 | 1161-MANT-1102 | 1161-MANT-1103 |
| 1161-MANT-1104 | 1161-MANT-1106 | 1161-MANT-1107 |
| 1161-MANT-1108 | 1161-MANT-1109 | 1161-MANT-1211 |
| 1161-MANT-1218 | 1161-MANT-1311 | 1161-MANT-1318 |
| 1161-MANT-1401 | 1161-MANT-1403 | 1161-MANT-2191 |

## REFERENCES:

- 1. 40 CFR 82 Chapter 40, Code of Federal Regulations, Part Number 82 (Protection of Stratospheric Ozone)
- 2. 42 USC 85 VI 7671 Title 42, United States Code, Chapter 85, Subchapter VI, Section 7671 (Ozone Protection)
- 3. MCO 5090.1 Chlorofluorocarbons (CFC's) and Halons
- 4. MCWP 4-11.4 Maintenance Operations
- 5. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

**EQUIPMENT:** Engineer Material Handling equipment, Utilities equipment, tools and kits

CLB-MOBL-3001: Fell standing timber

**SUPPORTED MCT(S):** MCT 4.3.6

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: Fell standing timber to clear a forested area in support of operations.

**CONDITION:** Given an operations order, standing timber, appropriate hand tools, an SL-3 complete chainsaw, mixed fuel, personnel, and all personal protective equipment (PPE).

**STANDARD:** To clear a forested area in support of operations in accordance with the concept of operations and the commander's intent.

# **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Determine equipment required.
- 3. Calculate time required for construction.
- 4. Prepare equipment for operation.
- 5. Move to site.
- 6. Establish safety zone.
- 7. Cut timber.
- 8. Submit required reports.

#### **RELATED EVENTS:**

| 1302-CMOB-1001 | 1302-SURV-1001 | 1310-ADMN-2002 |
|----------------|----------------|----------------|
| 1310-ADMN-2004 | 1310-ADMN-2009 | 1310-ADMN-2010 |
| 1310-HEOP-2001 | 1310-MANT-2002 | 1345-HEOP-1004 |
| 1345-HEOP-1005 | 1345-HEOP-1006 | 1345-MANT-1001 |
| 1345-MANT-2001 | 1349-ADMN-2004 | 1349-ADMN-2009 |
| 1349-ADMN-2010 | 1349-HEOP-2001 | 1349-MANT-2002 |
| 1371-CMOB-2001 | 1371-EOPS-1002 | 1371-EOPS-1003 |
| 1371-EOPS-2008 |                |                |

#### **REFERENCES:**

- 1. Appropriate TM/Manufacture's Manual for Chainsaw
- 2. MCRP 3-17A Engineering Field Data
- 3. MCRP 3-17B Engineer Forms and Reports

# SUPPORT REQUIREMENTS:

# ORDNANCE:

| DODIC                                     | Quantity                 |
|-------------------------------------------|--------------------------|
| M023 Charge, Demolition Block M112 1-1/4  | 10 charges per Team      |
| M032 Charge, Demolition Block TNT 1-Pound | 10 charges per Team      |
| M130 Cap, Blasting Electric M6            | 6 blasting caps per Team |
| M131 Cap, Blasting Non-Electric M7        | 6 blasting caps per Team |
| M456 Cord, Detonating PETN Type I Class E | 1000 FT per Team         |
| M591 Dynamite, Military M1                | 20 charges per Team      |
| M670 Fuse, Blasting Time M700             | 500 FT per Team          |
| MN08 Igniter, Time Blasting Fuse with Sho | 10 igniters per Team     |
| MN52 MK154 Mod 0                          | 10 detonators per Team   |

#### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer tools and kits, HazMat containment kit, PPE.

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CLB-MOBL-3002: Employ a medium machinegun team

SUPPORTED MCT(S): MCT 4.4.2.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**<u>DESCRIPTION</u>**: Employ a medium machinegun team in a mounted/dismounted position.

**CONDITION:** Given an operations order, a medium machinegun team, mounted, sectors of fire, targets, FPF, and while wearing fighting loads.

**STANDARD:** To support the scheme of maneuver in accordance with the concept of operations and commander's intent.

#### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Emplace/mount the weapon.
- 3. Engage targets.
- 4. Control fires as directed.
- 5. Displace according to scheme of maneuver.
- 6. Prepare for follow-on missions.

# REFERENCES:

- 1. MCWP 3-1 Ground Combat Operations
- 2. MCWP 3-15.1 Machine Guns and Machine Gun Gunnery

# **SUPPORT REQUIREMENTS:**

## **ORDNANCE:**

DODIC
A011 Cartridge, 12 Gauge #00 Buckshot M16
A131 Cartridge, 7.62mm 4 Ball M80/1 Trace
900 rounds per Marine

#### RANGE/TRAINING AREA:

Facility Code 17580 Machine Gun Transition Range Facility Code 17581 Machine Gun Field Fire Range

UNITS/PERSONNEL: Range Safety officer, Corpsman

OTHER SUPPORT REQUIREMENTS: ORM

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: This task should be trained on the ISMT before expending live rounds. This task can be accomplished using training

rounds. This task can be sustained through ISMT. Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CLB-MOBL-3003: Employ a heavy machinegun team

SUPPORTED MCT(S): MCT 4.4.2.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 3 months

**<u>DESCRIPTION</u>**: Employ a heavy machinegun team in a mounted/dismounted position.

**CONDITION:** Given an operations order, a heavy machinegun team, mounted, sectors of fire, targets, FPF, and while wearing fighting loads

STANDARD: To support the scheme of maneuver.

#### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Emplace/mount the weapon.
- 3. Engage targets.
- 4. Control fires as directed.
- 5. Displace according to scheme of maneuver.
- 6. Prepare for follow-on missions.

## **REFERENCES:**

- 1. MCWP 3-1 Ground Combat Operations
- 2. MCWP 3-15.1 Machine Guns and Machine Gun Gunnery

# SUPPORT REQUIREMENTS:

# ORDNANCE:

<u>DODIC</u>
A576 Cartridge, Caliber .50 4 API M8/1 AP

<u>Quantity</u>
650 rounds per Marine

# RANGE/TRAINING AREA:

Facility Code 17580 Machine Gun Transition Range Facility Code 17581 Machine Gun Field Fire Range

UNITS/PERSONNEL: Range Safety officer, Corpsman

OTHER SUPPORT REQUIREMENTS: ORM

#### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: This task should be trained on the ISMT before expending live rounds. This task can be accomplished using training rounds. This task can be sustained through ISMT. Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CLB-RECN-3001: Survey site for construction

SUPPORTED MCT(S):

MCT 4.4.1.1 MCT 4.4.2.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Survey site for construction to allow critical planning for construction and or operations in support of the MAGTF.

**CONDITION:** Provided a construction mission, a map, a scientific calculator, task organized personnel, equipment, and references.

**STANDARD:** To support commander's intent, mission requirements and concept of operations.

## **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Move to survey site.
- 3. Reconnoiter project site as required.
- 4. Submit required reports.

## RELATED EVENTS:

| 1302-HORZ-1001 | 1302-PLAN-1002 | 1302-PLAN-2004 |
|----------------|----------------|----------------|
| 1302-RECN-1001 | 1302-VERT-1001 | 1361-SRVY-1001 |
| 1361-SRVY-1002 | 1361-SRVY-1003 | 1361-SRVY-1004 |
| 1361-SRVY-1005 | 1361-SRVY-1006 | 1361-SRVY-1007 |
| 1361-SRVY-1008 | 1361-SRVY-1009 | 1361-SRVY-1010 |
| 1361-SRVY-1011 | 1361-SRVY-1012 | 1361-SRVY-2002 |
| 1361-XENG-2001 | 1361-XENG-2002 | 1371-PLAN-2002 |
| 1371-RECN-1001 | 1371-RECN-2001 |                |

### REFERENCES:

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7D Concrete and Masonry
- 3. MCRP 3-17A Engineering Field Data
- 4. MCWP 3-17.4 Engineer Reconnaissance
- 5. NAVEDTRA 10696 Engineer Aid 3
- 6. TM 5-581B Construction Drafting
- 7. TM 5-704 Construction Print Reading in the Field

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

CLB-RECN-3002: Conduct cache sweep

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 3 months

DESCRIPTION: Conduct cache sweep operations in order to detect, identify and

secure materials (documents, discs, tapes, weapons, explosives, ammunition, chemical materials, bombs, electronic equipment, etc.). Appropriate safety and evidentiary preservation measures should be employed during cache sweeps.

**CONDITION:** Provided a mission order, detection equipment, personnel, engineer equipment, Class IV, personal protective equipment, and references.

**STANDARD:** To locate, mark, and reduce all discovered ordnance, munitions, mines, ammunition, weapons, and explosives per commander's intent and mission requirement.

#### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Determine detector to be used.
- 3. Prepare equipment for operation.
- 4. Move to site.
- 5. Establish safety zone.
- 6. Conduct area sweep.
- 7. Locate and mark the object.
- 8. Identify the object.
- 9. Destroy object(s) as required.
- 10. Proof area to ensure explosive object has been properly neutralized.
- 11. Submit required reports.

#### RELATED EVENTS:

| 1302-DEMO-1004 | 1302-MOBL-1002 | 1302-MOBL-1003 |
|----------------|----------------|----------------|
| 1302-MOBL-1009 | 1302-RECN-1001 | 1371-MOBL-1002 |
| 1371-MOBL-1003 | 1371-MOBL-2018 | 1371-MOBL-2020 |
| 1371-MOBL-2021 | 1371-MOBL-2022 |                |

#### **REFERENCES:**

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations

#### SUPPORT REQUIREMENTS:

# **ORDNANCE:**

| Quantity                  |
|---------------------------|
| 20 charges per Team       |
| 1 charges per squad       |
| 20 blasting caps per Team |
| 10 blasting caps per Team |
| 1 charges per Team        |
| 1 charges per Team        |
| 1000 FT per Team          |
| 10 charges per Team       |
| 500 FT per Team           |
| 1 charges per Team        |
| 20 igniters per Team      |
|                           |

#### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer equipment, tools and kits

OTHER SUPPORT REQUIREMENTS: ORM

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

CLB-RECN-3003: Conduct obstacle reconnaissance

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct obstacle reconnaissance to focus on answering obstacle intelligence IR-obstacle location, width, and depth; obstacle composition (wire, mines by type, and so forth.); soil conditions; locations of lanes and bypasses; and the location of enemy direct-fire systems.

<u>CONDITION</u>: Provided a mission, a tactical scenario, blank engineer reconnaissance forms (DA Form 1711-R), personnel, equipment, and references.

**STANDARD:** To identify obstacles; identify suitable bypasses; and record any other relevant engineer information on the appropriate reconnaissance forms per the references. All information will be transferred to a map overlay using correct engineer/tactical symbols.

# **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Review the map of the route to be taken.
- 3. Proceed to assigned objective.
- 4. Determine obstacle type and location.
- 5. Reconnoiter obstacle as required.
- 6. Identify suitable bypasses.
- 7. Submit required reports.

#### RELATED EVENTS:

1302-RECN-1001 1371-RECN-1001 1371-RECN-2001

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. GTA 05-07-013 Bridge Classification Card (2006)
- 3. GTA 5-2-5 Engineer Reconnaissance

- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.4 Engineer Reconnaissance
- 9. MCWP 3-17.8 Combined Arms Mobility Operations

## RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17920 Panel Bridge Area

**EQUIPMENT:** Motor Transport equipment, Range finder, Tape measure, Compass, Protractor, Camera, Maps

CLB-RECN-3004: Conduct bridge reconnaissance

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct bridge reconnaissance to collect detailed technical information on selected bridges. This assessment provides the basic Military Load Classification (MLC) information necessary for the commander to plan for the use of the bridge.

<u>CONDITION</u>: Provided a mission, a tactical scenario, blank engineer reconnaissance forms (DA Form 1711-R), personnel, equipment, and references.

<u>STANDARD</u>: To classify bridges, identify obstacles, identify suitable bypasses, and record any other relevant engineer information on the appropriate reconnaissance forms per the references. All information will be transferred to a map overlay using correct engineer/tactical symbols.

#### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Review the map of the route to be taken.
- 3. Proceed to assigned objective.
- 4. Reconnoiter bridge.
- Classify bridge(s), as required.
- 6. Identify suitable bypasses.
- 7. Submit required reports.

#### RELATED EVENTS:

1302-RECN-1001 1371-RECN-1001 1371-RECN-2001

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. GTA 5-7-13 Bridge Classification Booklet
- 5. MCRP 3-17.1B Military Non-Standard Fixed Bridging

- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 9. MCWP 3-1 Ground Combat Operations
- 10. MCWP 3-17 Engineering Operations
- 11. MCWP 3-17.3 MAGTF Breaching Operations
- 12. MCWP 3-17.4 Engineer Reconnaissance

### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17920 Panel Bridge Area

CLB-RECN-3005: Conduct road reconnaissance

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Conduct road reconnaissance to collect detailed technical information on the engineering characteristics and trafficability of a road section within a route.

<u>CONDITION</u>: Provided a mission, a tactical scenario, blank engineer reconnaissance forms (DA Form 1711-R), personnel, equipment, and references.

**STANDARD:** To classify roads, routes; identify obstacles; identify suitable bypasses; and record any other relevant engineer information on the appropriate reconnaissance forms per the references. All information will be transferred to a map overlay using correct engineer/tactical symbols.

#### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Review the map of the route to be taken.
- 3. Proceed to assigned objective.
- 4. Reconnoiter road(s) or route(s) as required.
- 5. Classify road(s) as required.
- 6. Classify route(s) as required
- 7. Identify suitable bypasses.
- 8. Submit required reports.

### RELATED EVENTS:

1302-RECN-1001 1371-RECN-1001 1371-RECN-2001

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 7. MCWP 3-17 Engineering Operations

- 8. MCWP 3-17.4 Engineer Reconnaissance
- 9. MCWP 3-17.8 Combined Arms Mobility Operations

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

CLB-RECN-3006: Assess damage to airfield surfaces

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Surface defects can usually be attributed to excessive loads, inferior surfacing material, poor subgrade or base conditions, inadequate drainage, or a combination of these conditions. Surface inspections should include a complete inventory of the current pavement defects. Careful investigation of the causes of the defects will allow for timely maintenance to prevent the pavement defects from requiring repair.

**CONDITION:** Given a tactical situation, a forward operating base to be repaired, an operations order, commander's intent, personnel, equipment, and references.

<u>STANDARD</u>: To restore the forward operating base to optimum operational capability to reestablish surface roughness criteria in order to maintain serviceability of the airfield surface.

#### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Coordinate with supporting unit (EOD).
- 3. Determine personnel, tool, and equipment requirement(s).
- 4. Proceed to assigned objective.
- 5. Reconnoiter damaged airfield surface as required.
- 6. Determine the type and extent of repair required.
- 7. Determine material required to complete the repair.
- 8. Issue the repair order.
- 9. Inspect completed repair.
- 10. Submit appropriate engineer reports.

#### **RELATED EVENTS:**

| 1302-EOPS-1004 | 1302-EOPS-1007 | 1302-EOPS-1009 |
|----------------|----------------|----------------|
| 1371-EOPS-2004 | 1371-EOPS-2006 | 1371-EOPS-2007 |
| 1371-EOPS-2007 | 1371-EOPS-2010 | 1371-EOPS-2011 |
| 1371-EOPS-2012 |                |                |

- 1. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 2. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 3. MCRP 3-17B Engineer Forms and Reports

- 4. MCWP 3.21.1 Aviation Ground Support
- 5. MCWP 3-17 Engineering Operations

RANGE/TRAINING AREA: Facility Code 17918 Road/Airfield Construction

Training Site

**EQUIPMENT:** Engineer equipment, PPE

UNITS/PERSONNEL: EOD personnel

CLB-RECN-3007: Assess damage to airfield facilities and structures

SUPPORTED MCT(S):

MCT 4.4.1.1 MCT 4.4.2.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Airfield facilities and structures used by coalition forces may be of sub-standard construction practices/materials or may have degraded over time therefore periodic inspections should be performed to ensure structural integrity and safety of the occupants.

**CONDITION:** Given an operations order, an airfield facility or structure to be repaired, task organized equipment and personnel, resources, and references.

**STANDARD:** To restore airfield facilities and structures to operating conditions in accordance with the commander's intent and concept of operations.

#### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Determine personnel, tool, and equipment requirement(s).
- 3. Proceed to assigned objective.
- 4. Reconnoiter damaged airfield facilities, as required.
- 5. Determine the type and extent of repair required.
- 6. Determine material required to complete the repair.
- 7. Submit appropriate engineer reports.

# RELATED EVENTS:

| 1302-EOPS-1004 | 1302-EOPS-1009 | 1361-DRAF-1001 |
|----------------|----------------|----------------|
| 1361-DRAF-1003 | 1361-SRVY-1007 | 1361-SRVY-2003 |
| 1361-SRVY-2004 | 1361-SRVY-2005 | 1371-EOPS-2004 |
| 1371-EOPS-2006 | 1371-EOPS-2007 | 1371-EOPS-2010 |
| 1371-EOPS-2011 | 1371-EOPS-2012 |                |

- 1. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 2. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design

- 3. MCRP 3-17B Engineer Forms and Reports
- 4. MCWP 3.21.1 Aviation Ground Support
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.7 General Engineering

RANGE/TRAINING AREA: Facility Code 17918 Road/Airfield Construction

Training Site

**EQUIPMENT:** Engineer equipment, PPE

UNITS/PERSONNEL: EOD personnel

CLB-SURV-3001: Construct trenches

SUPPORTED MCT(S): MCT 4.4.1.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Employ organic hand tools and/or earth moving assets, tools and equipment.

CONDITION: Given an operations order, personnel, and engineer equipment.

**STANDARD:** That allows multiple combatants' protection from direct fire weapons affords a force the capability to engage targets from front and oblique's, meets or exceeds the mission requirement and supports the concept of operation in accordance with the commander's intent.

# **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Calculate time required for construction.
- 3. Prepare equipment for operation.
- 4. Move to site.
- 5. Establish safety zone.
- 6. Dig emplacement as required.
- 7. Displace equipment as required.
- 8. Submit required reports.

# RELATED EVENTS:

| 1302-SURV-1001 | 1310-HEOP-2001 | 1310-MANT-2002 |
|----------------|----------------|----------------|
| 1345-HEOP-1004 | 1345-HEOP-2005 | 1349-HEOP-2001 |
| 1349-MANT-2002 | 1371-SURV-1001 |                |

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCRP 3-17A Engineering Field Data
- 3. MCRP 3-17B Engineer Forms and Reports
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.5 Combined Arms Countermobility Operations
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)

- 8. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 9. MCWP 3-41.1 Rear Area Operations
- 10. MCWP 4-11 Tactical-Level Logistics

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light

Forces

**EQUIPMENT:** Engineer equipment

MATERIAL: Map, Compass, Protractor, Overlay Sheets, Reconnaissance Reports

#### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

CLB-SURV-3002: Construct shelters/bunkers

SUPPORTED MCT(S): MCT 4.4.2.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Construct shelters/bunkers to provide combatant(s) and/or combat equipment cover from the elements, indirect/direct fire weapons.

CONDITION: Given an operations order, personnel, and engineer equipment.

**STANDARD:** That provides combatant(s) and/or combat equipment cover from the elements, indirect/direct fire weapons, and meets or exceeds the mission requirement and supports the concept of operation in accordance with the commander's intent.

# **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Design position required.
- 3. Determine material required.
- 4. Calculate time required for construction.
- 5. Prepare equipment for operation.
- 6. Move to site.
- 7. Establish safety zone.
- 8. Construct shelter/bunker, as required.
- 9. Displace equipment, as required.
- 10. Submit required reports.

# RELATED EVENTS:

| 1302-CMOB-1001 | 1302-CMOB-1003 | 1302-SURV-1001 |
|----------------|----------------|----------------|
| 1302-SURV-1003 | 1310-HEOP-2001 | 1310-HORZ-2001 |
| 1310-HORZ-2002 | 1310-HORZ-2003 | 1310-MANT-2002 |
| 1316-ADMN-1001 | 1316-ADMN-2001 | 1316-ADMN-2002 |
| 1316-XENG-1001 | 1316-XENG-1006 | 1316-XENG-2002 |
| 1345-HEOP-1003 | 1345-HEOP-1004 | 1345-HEOP-1005 |
| 1345-HEOP-1007 | 1345-HEOP-2006 | 1345-HEOP-2007 |

| 1345-HEOP-2012 | 1345-MANT-1001 | 1345-MANT-2001 |
|----------------|----------------|----------------|
| 1349-HEOP-2001 | 1349-HORZ-2001 | 1349-HORZ-2002 |
| 1349-HORZ-2003 | 1349-MANT-2002 | 1371-CMOB-1001 |
| 1371-CMOB-1002 | 1371-CMOB-1003 | 1371-CMOB-2001 |
| 1371-CMOB-2002 | 1371-SURV-1001 | 1371-SURV-2001 |
| 1371-SURV-2002 |                |                |

#### **REFERENCES:**

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-41.1 Rear Area Operations
- 8. MCWP 4-11 Tactical-Level Logistics

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Engineer equipment and combat engineer tools and kits

<u>MATERIAL</u>: Map, Compass, Protractor, Overlay sheets, Reconnaissance reports, Class IV materials as required

#### **MISCELLANEOUS:**

**ADMINISTRATIVE INSTRUCTIONS: ORM** 

<u>CLB-SURV-3003</u>: Construct vehicle survivability position/revetment

# SUPPORTED MCT(S):

MCT 4.4.1.1 MCT 4.4.2.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**<u>DESCRIPTION</u>**: Construct vehicle survivability position/revetment to increase vehicle survivability.

 $\underline{\text{CONDITION}}$ : Given an operations order, personnel, engineer equipment, and materials.

<u>STANDARD</u>: To build vehicle survivability positions/revetments that meets or exceeds the mission requirement and supports the concept of operation in accordance with the commander's intent.

# **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Design position required.
- 3. Determine material required.
- 4. Calculate time required for construction.

- 5. Prepare equipment for operation.
- 6. Move to site.
- 7. Establish safety zone.
- 8. Construct revetment, as required.
- 9. Displace equipment, as required.
- 10. Submit required reports.

### RELATED EVENTS:

| 1302-SURV-1002 | 1310-ADMN-2004 | 1310-ADMN-2009 |
|----------------|----------------|----------------|
| 1310-ADMN-2010 | 1310-HEOP-2001 | 1310-HORZ-2001 |
| 1310-HORZ-2002 | 1310-HORZ-2003 | 1310-MANT-2002 |
| 1316-ADMN-2001 | 1316-ADMN-2002 | 1316-XENG-2002 |
| 1316-XENG-2005 | 1345-HEOP-1004 | 1345-HEOP-1005 |
| 1345-HEOP-1007 | 1345-HEOP-2006 | 1345-HEOP-2007 |
| 1345-HEOP-2012 | 1345-MANT-1001 | 1345-MANT-2001 |
| 1349-HEOP-2001 | 1349-HORZ-2001 | 1349-HORZ-2002 |
| 1349-HORZ-2003 | 1349-MANT-2002 | 1371-SURV-2001 |

## REFERENCES:

- 1. GTA 05-08-001 Survivability Positions
- 2. JP 3-34 Joint Engineer Operations
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.5 Combined Arms Countermobility Operations
- 7. MCWP 3-17.6 Survivability
- 8. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 9. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 10. MCWP 3-41.1 Rear Area Operations
- 11. MCWP 4-11 Tactical-Level Logistics

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light

Forces

**EQUIPMENT:** Engineer equipment assets

MATERIAL: Map, Compass, Protractor, Overlay sheets, Reconnaissance

reports, Class IV materials, as required

# MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

CLB-SURV-3004: Construct crew served weapons position

SUPPORTED MCT(S): MCT 4.4.2.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**<u>DESCRIPTION</u>**: Construct crew served weapons position to enable weapons to engage targets from front and oblique's.

**CONDITION:** Given an operations order, personnel, and engineer equipment.

<u>STANDARD</u>: That allows a weapons team the capability to engage targets from front and oblique's, and meets or exceeds the mission requirement and support the concept of operation in accordance with the commander's intent.

#### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Prepare equipment for operation.
- 3. Move to site.
- 4. Establish safety zone.
- 5. Dig emplacement, as required.
- 6. Displace equipment, as required.
- 7. Submit required reports.

### RELATED EVENTS:

| METHID EVENIO. |                |                |
|----------------|----------------|----------------|
| 1302-SURV-1002 | 1310-ADMN-2004 | 1310-ADMN-2009 |
| 1310-ADMN-2010 | 1310-HEOP-2001 | 1310-HORZ-2001 |
| 1310-HORZ-2002 | 1310-HORZ-2003 | 1310-MANT-2002 |
| 1316-ADMN-2001 | 1316-ADMN-2002 | 1316-XENG-2002 |
| 1316-XENG-2005 | 1345-HEOP-1004 | 1345-HEOP-1005 |
| 1345-HEOP-1007 | 1345-HEOP-2006 | 1345-HEOP-2007 |
| 1345-HEOP-2012 | 1345-MANT-1001 | 1345-MANT-2001 |
| 1349-HEOP-2001 | 1349-HORZ-2001 | 1349-HORZ-2002 |
| 1349-HORZ-2003 | 1349-MANT-2002 | 1371-SURV-2001 |

### REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17A Engineering Field Data
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 7. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 8. MCWP 3-41.1 Rear Area Operations
- 9. MCWP 4-11 Tactical-Level Logistics

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light

**EQUIPMENT:** Engineer equipment, Combat engineer tools and kits

MATERIAL: Map, Compass, Protractor, Overlay sheets, Reconnaissance reports, Class IV supplies, as required

# MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

CLB-SURV-3005: Construct overhead cover

SUPPORTED MCT(S): MCT 4.4.2.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Construct overhead cover that meets or exceeds the maximum threat capability of enemy weapons systems.

CONDITION: Given an operations order, personnel, and engineer equipment.

**STANDARD:** To design specifications that meets or exceeds the maximum threat capability of enemy weapons systems in accordance with the concept of operations.

## **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Design position required.
- 3. Determine material required.
- 4. Calculate time required for construction.
- 5. Prepare equipment for operation.
- 6. Move to site.
- 7. Establish safety zone.
- 8. Construct overhead cover, as required.
- 9. Displace equipment, as required.
- 10. Submit required reports.

### **RELATED EVENTS:**

| 1310-ADMN-2004 | 1310-ADMN-2009                                                                                                             |
|----------------|----------------------------------------------------------------------------------------------------------------------------|
| 1310-HEOP-2001 | 1310-MANT-2002                                                                                                             |
| 1316-ADMN-1002 | 1316-ADMN-2001                                                                                                             |
| 1316-XENG-1001 | 1316-XENG-1006                                                                                                             |
| 1345-HEOP-1003 | 1345-HEOP-1004                                                                                                             |
| 1345-HEOP-2012 | 1345-MANT-1001                                                                                                             |
| 1349-ADMN-2004 | 1349-ADMN-2009                                                                                                             |
| 1349-HEOP-2001 | 1349-MANT-2002                                                                                                             |
| 1371-SURV-2001 |                                                                                                                            |
|                | 1310-HEOP-2001<br>1316-ADMN-1002<br>1316-XENG-1001<br>1345-HEOP-1003<br>1345-HEOP-2012<br>1349-ADMN-2004<br>1349-HEOP-2001 |

## REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 8. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 9. MCWP 3-41.1 Rear Area Operations
- 10. MCWP 4-11 Tactical-Level Logistics

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

**EQUIPMENT:** Engineer equipment and combat engineer tools and kits

<u>MATERIAL</u>: Map, Compass, Protractor, Overlay Sheets, Reconnaissance Reports, Class IV supplies, as required

#### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

CLB-SURV-3006: Construct individual fighting position

SUPPORTED MCT(S): MCT 4.4.2.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Construct individual fighting positions and/or trenches to protect one or more dismounted Marines armed with individual weapons, while supporting their ability to engage the enemy. Fighting positions typically consist of a hole in the ground, supplemented with frontal, overhead, and flank or rear cover as the time and situation permits. Trenches typically connect fighting positions, C2 nodes and logistical hubs while providing cover from enemy observation and direct/indirect fire.

CONDITION: Given an operations order, personnel, and engineer equipment.

<u>STANDARD</u>: Positions are planned and designed so that they are concealed, mutually supporting, and have interlocking fields of fire in all directions and protect occupants against enemy direct-fire weapons systems.

#### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Prepare equipment for operation.
- 3. Move to site.
- 4. Establish safety zone.
- 5. Dig emplacement, as required.
- 6. Displace equipment, as required.
- 7. Submit required reports.

## RELATED EVENTS:

| 1302-SURV-1001 | 1310-ADMN-2004 | 1310-ADMN-2009 |
|----------------|----------------|----------------|
| 1310-ADMN-2010 | 1310-HEOP-2001 | 1310-MANT-2002 |
| 1345-HEOP-1003 | 1345-HEOP-1004 | 1345-HEOP-1005 |
| 1345-HEOP-2012 | 1345-MANT-1001 | 1371-SURV-1001 |
| 1371-SURV-2001 |                |                |

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)

- 8. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 9. MCWP 3-41.1 Rear Area Operations
- 10. MCWP 4-11 Tactical-Level Logistics

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Engineer equipment, Combat engineer tools and kits

MATERIAL: Map, Compass, Protractor, Overlay sheets, Reconnaissance reports, Class IV materials as required

#### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

CLB-SURV-3007: Construct triggering screen

SUPPORTED MCT(S): MCT 4.4.2.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Triggering screens are built separately or added on to existing structures and used to activate the fuze of an incoming shell or projectile at a designated standoff distance from the structure.

**CONDITION:** Given an operations order, personnel, and engineer equipment.

**STANDARD:** So that it provides an effective screen against enemy weapons systems.

# **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Design position required.
- 3. Determine material required.
- 4. Calculate time required for construction.
- 5. Prepare equipment for operation.
- 6. Move to site.
- 7. Establish safety zone.
- 8. Construct blast screen, as required.
- 9. Displace equipment, as required.
- 10. Submit required reports.

#### RELATED EVENTS:

1302-SURV-1001 1302-SURV-1002 1371-SURV-1001 1371-SURV-2001

- 1. JP 3-34 ENGINEER DOCTRINE FOR JOINT OPERATIONS
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry

- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 8. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 9. MCWP 3-41.1 Rear Area Operations
- 10. MCWP 4-11 Tactical-Level Logistics

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Engineer equipment, Combat engineer tools and kits

MATERIAL: Map, Compass, Protractor, Overlay sheets, Reconnaissance reports, Class IV materials, as required

## MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

CLB-SURV-3008: Construct vehicle fighting position

### SUPPORTED MCT(S):

MCT 4.4.1.1 MCT 4.4.2.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Construct vehicle fighting position to increase vehicle survivability.

**CONDITION:** Given an operations order, personnel, engineer equipment, and materials.

<u>STANDARD</u>: That meets or exceeds the mission requirement for the specified vehicle/weapons system in accordance with the concept of operations.

#### **EVENT COMPONENTS:**

- 1. Review the mission.
- 2. Coordinate with supported unit.
- 3. Prepare equipment for operation.
- 4. Move to site.
- 5. Establish safety zone.
- 6. Dig emplacement as required per vehicle type and weapon employment.
- 7. Displace equipment, as required.
- 8. Submit required reports.

# RELATED EVENTS:

| 1302-SURV-1002 | 1310-HEOP-2001 | 1310-HORZ-2001 |
|----------------|----------------|----------------|
| 1310-HORZ-2002 | 1310-HORZ-2003 | 1310-MANT-2002 |
| 1345-HEOP-1004 | 1345-HEOP-1005 | 1345-HEOP-1007 |
| 1345-HEOP-2006 | 1345-HEOP-2007 | 1345-HEOP-2012 |

| 1345-MANT-1001 | 1349-HEOP-2001 | 1349-HORZ-2001 |
|----------------|----------------|----------------|
| 1349-HORZ-2002 | 1349-HORZ-2003 | 1349-MANT-2002 |
|                |                |                |

1371-SURV-2001

## REFERENCES:

- 1. MCRP 3-17A Engineering Field Data
- 2. MCWP 3-17 Engineering Operations
- 3. MCWP 3-17.6 Survivability
- 4. MCWP 3-41.1 Rear Area Operations

#### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light

Forces

**EQUIPMENT:** Engineer equipment assets

# MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

CLB-UTIL-3001: Establish tactical power distribution system

SUPPORTED MCT(S): MCT 4.4.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Provide limited power distribution equipment to establish a tactical electric grid in order to distribute electric power that meets the operational requirement and commanders intent. Limited tactical electric supply is a scaled level of electrical distribution that provides support to a single unit. Unit performing limited tactical electrical supply is constrained by capacity and capability from providing tactical electrical support beyond its own footprint.

CONDITION: With a utilities plan, required equipment and personnel.

**STANDARD:** To accomplish operational requirements and commander's intent. **EVENT COMPONENTS:** 

- 1. Coordinate with supported unit(s).
- 2. Determine load requirements.
- 3. Plan power distribution system(s).
- 4. Set up distribution system(s).
- 5. Inspect grounding and connections.
- 6. Energize system(s).
- 7. Test system(s).

## RELATED EVENTS:

| ************************************** |                |                |
|----------------------------------------|----------------|----------------|
| 1141-ADMN-1002                         | 1141-ADMN-1006 | 1141-MANT-1101 |
| 1141-MANT-1224                         | 1141-MANT-2244 | 1141-XENG-1601 |
| 1141-XENG-1624                         | 1141-XENG-1703 | 1141-XENG-2501 |
| 1141-XENG-2521                         | 1141-XENG-2621 | 1141-XENG-2622 |
| 1141-XENG-2623                         | 1141-XENG-2721 | 1141-XENG-2821 |

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. FM 5-424 Theater of Operations Electrical Systems
- 3. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 4. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

#### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

**EQUIPMENT:** Power Distribution Systems, Power Generation Systems, PPE, MHE, Motor Transport equipment, HazMat Containment Kit

CLB-UTIL-3002: Provide floodlight support

SUPPORTED MCT(S): MCT 4.4.4.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: Provide illumination during low light conditions in order to meet mission requirements and commander's intent.

CONDITION: With an operational order, required equipment and personnel.

STANDARD: To properly illuminate required area.

#### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit(s).
- 2. Establish illumination plan.
- 3. Set up floodlight set(s).
- 4. Operate a floodlight.

### RELATED EVENTS:

| 1141-ADMN-1006 | 1141-ADMN-1007 | 1141-ADMN-1008 |
|----------------|----------------|----------------|
| 1141-ADMN-1009 | 1141-MANT-1101 | 1141-MANT-1247 |
| 1141-XENG-1703 | 1141-XENG-1747 | 1141-XENG-2622 |

# REFERENCES:

- 1. FM 5-424 Theater of Operations Electrical Systems
- 2. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment

#### SUPPORT REQUIREMENTS:

**EQUIPMENT:** PPE, tools and kits

CLB-UTIL-3003: Establish power generation site(s)

SUPPORTED MCT(S): MCT 4.4.4.1

**EVALUATION-CODED:** YES **SUSTAINMENT INTERVAL:** 6 months

**DESCRIPTION:** Provide limited power generation equipment to meet operational requirement and commander's intent. Limited tactical electric supply is a scaled level of power generation that provides support to a single unit. Unit performing limited tactical electrical supply is constrained by capacity and capability from providing tactical electrical support beyond its own footprint.

CONDITION: With a utilities plan, required equipment and personnel.

STANDARD: To ensure operational requirements are met.

#### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit(s).
- 2. Set up generator site(s).
- 3. Inspect grounding and connections.
- 4. Energize system(s).
- 5. Perform operational check(s).
- 6. Test system.

# RELATED EVENTS:

| 1141-ADMN-1006 | 1141-ADMN-1007 | 1141-ADMN-1008 |
|----------------|----------------|----------------|
| 1141-ADMN-1009 | 1141-MANT-1101 | 1141-XENG-1601 |
| 1141-XENG-1618 | 1141-XENG-1751 | 1141-XENG-1752 |
| 1141-XENG-1753 | 1141-XENG-1754 | 1141-XENG-1757 |
| 1141-XENG-1763 | 1141-XENG-1765 | 1141-XENG-1795 |
| 1141-XENG-2622 | 1141-XENG-2718 | 1141-XENG-2737 |
| 1141-XENG-2750 | 1141-XENG-2755 |                |
|                |                |                |

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. FM 5-424 Theater of Operations Electrical Systems
- 3. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 4. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

**EQUIPMENT:** Power Generation Systems, PPE, MHE, Motor Transport equipment, HazMat Containment Kit

CLB-UTIL-3004: Wire a structure for electricity

SUPPORTED MCT(S): MCT 4.4.4.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

 $\underline{\mathtt{DESCRIPTION}}\colon$  Install limited interior electrical wiring in order to distribute electricity to meet electrical power requirements.

CONDITION: Provided a mission, resources, required equipment, and personnel.

**STANDARD:** To establish operational power per commander's intent to support mission requirements.

## **EVENT COMPONENTS:**

- 1. Coordinate with supported unit(s).
- 2. Estimate and requisition materials (as required).
- 3. Calculate time required to wire structure.
- 4. Gather tools and materials.
- 5. Set safety zone, lockout and tagout any preexisting electrical circuits that will be worked on, as required.
- 6. Verify the location of preexisting underground utility lines.
- 7. Install electrical boxes, interior/exterior wiring, service feeder, service entrance cables and main and sub panel boxes, as required.
- 8. Install equipment and system grounding, as required.
- 9. Request qualified inspector to complete uncovered/rough-in electrical inspection.
- 10. Install devices, circuit breakers, fixtures and electrical equipment, as required.
- 11. Request qualified inspector to complete final electrical inspection.
- 12. Request qualified personnel to connect service feeder to appropriate transformer or power generation, as required.
- 13. Energize and test electrical system.
- 14. Submit required reports.

## RELATED EVENTS:

| ************************************** |                |                |
|----------------------------------------|----------------|----------------|
| 1141-ADMN-1002                         | 1141-ADMN-2031 | 1141-MANT-1101 |
| 1141-XENG-1601                         | 1141-XENG-1703 | 1141-XENG-1961 |
| 1141-XENG-1962                         | 1141-XENG-2561 | 1141-XENG-2622 |
| 1141-XENG-2623                         | 1141-XENG-2694 | 1141-XENG-2696 |
| 1141-XENG-2963                         | 1141-XENG-2964 | 1141-XENG-2965 |
| 1141-XENG-2966                         |                |                |
|                                        |                |                |

## REFERENCES:

- 1. 29 CFR 1910.147 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 147 Control of Hazardous Energy (Lockout/Tagout)
- 2. 29 CFR 1910.269 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 269 Electrical Power Generation, Transmission, and Distribution
- 3. 29 CFR 1910.301-399 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Subpart S, (Standard Numbers 301-399) Electrical
- 4. FM 5-424 Theater of Operations Electrical Systems
- 5. NEC (NFPA 70) National Electrical Code by National Fire Protection Association

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Electrical materials (as required), PPE, tools and kits

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Final inspection must be performed by a qualified inspector who is a graduate of one or more listed courses: Advanced Electrician (AE), Utilities Chief (UC), or Utilities Officer (UO) Course.

CLB-UTIL-3005: Provide Environmental Control Unit (ECU) support

SUPPORTED MCT(S): MCT 4.4.4.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Utilize ECU equipment in order to provide adequate climate control for critical equipment that is sensitive to extreme temperatures.

CONDITION: With an operational order, required equipment and personnel.

STANDARD: In accordance with the operational order.

## **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Establish ECU support plan.
- Install ECU(s).
- 4. Maintain ECU(s).

### **RELATED EVENTS:**

| 1161-ADMN-1006 | 1161-MANT-1211 | 1161-MANT-1218 |
|----------------|----------------|----------------|
| 1161-XENG-1611 | 1161-XENG-1614 | 1161-XENG-1634 |
| 1161-XENG-2541 | 1161-XENG-2618 | 1161-XENG-2641 |
| 1161-XENG-2741 |                |                |

#### REFERENCES:

- 1. 40 CFR 82 Chapter 40, Code of Federal Regulations, Part Number 82 (Protection of Stratospheric Ozone)
- 2. 42 USC 85 VI 7671 Title 42, United States Code, Chapter 85, Subchapter VI, Section 7671 (Ozone Protection)
- 3. MCO 5090.1 Chlorofluorocarbons (CFC's) and Halons
- 4. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment

#### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

**EQUIPMENT:** PPE, power generation, distribution, ECU equipment, maintenance equipment, as required

<u>CLB-UTIL-3006</u>: Provide refrigeration support

SUPPORTED MCT(S): MCT 4.4.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**<u>DESCRIPTION</u>**: Provide limited refrigeration for cooling and freezing as required.

CONDITION: With an operational order, required equipment and personnel.

STANDARD: In accordance with the operational order.

## **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Setup refrigeration unit(s).
- 3. Maintain refrigeration unit(s).
- 4. Recover refrigeration unit(s).

#### RELATED EVENTS:

1161-ADMN-1006 1161-MANT-1235 1161-XENG-1635 1161-XENG-2541 1161-XENG-2642 1161-XENG-2741

### **REFERENCES:**

- 1. 40 CFR 82 Chapter 40, Code of Federal Regulations, Part Number 82 (Protection of Stratospheric Ozone)
- 2. 42 USC 85 VI 7671 Title 42, United States Code, Chapter 85, Subchapter VI, Section 7671 (Ozone Protection)
- 3. MCO 5090.1 Chlorofluorocarbons (CFC's) and Halons
- 4. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

**EQUIPMENT:** PPE, power generation equipment, ECUs, distribution, maintenance equipment as required

CLB-UTIL-3007: Produce potable water

SUPPORTED MCT(S): MCT 4.4.3.1

**EVALUATION-CODED:** YES **SUSTAINMENT INTERVAL:** 6 months

**<u>DESCRIPTION</u>:** Produce and store limited potable water in order to meet mission requirements. Limited water production operations are a scaled-level of engineer service restrained by the capability and capacity of the unit performing. Single point distribution is generally the norm.

CONDITION: With a utilities plan, required equipment and personnel.

**STANDARD:** To ensure operational requirements are met.

## **EVENT COMPONENTS:**

1. Perform water recon.

- 2. Establish water point.
- 3. Produce potable water.
- 4. Test water for potability.

## RELATED EVENTS:

| 1171-ADMN-1006 | 1171-ADMN-1007 | 1171-ADMN-1008 |
|----------------|----------------|----------------|
| 1171-ADMN-1009 | 1171-MANT-1282 | 1171-XENG-1604 |
| 1171-XENG-1782 | 1171-XENG-2501 | 1171-XENG-2502 |
| 1171-XENG-2553 | 1171-XENG-2651 | 1171-XENG-2653 |
| 1171-XENG-2752 | 1171-XENG-2753 | 1171-XENG-2754 |
| 1171-XENG-2853 |                |                |

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 5. TB MED 577 Occupational and Environmental Health Sanitary Control and Surveillance of Field Water Supplies

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17924 Water Supply Training Area

**EQUIPMENT:** Utilities equipment with supplemental kits (cartridges, NBC filters etc.), MHE, water testing kit, tool kits, PPE

MATERIAL: Chemicals to purify raw water source

<u>UNITS/PERSONNEL</u>: Note: Request Navy Medical Technician and Preventive Medicine Technician (PMT), as required

CLB-UTIL-3008: Store potable water

**SUPPORTED MCT(S):** MCT 4.4.3.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Store a limited amount of potable water in order to meet mission requirements. Limited water production operations are a scaled-level of engineer service restrained by the capability and capacity of the unit performing. Single point distribution is generally the norm.

**CONDITION:** With a utilities plan, required equipment and personnel.

STANDARD: To ensure operational requirements are met.

#### **EVENT COMPONENTS:**

- 1. Determine storage requirements.
- Establish storage site(s).
- 3. Test water for potability.
- 4. Store water for distribution.

## PREREQUISITE EVENTS:

| 1171-ADMN-1006 | 1171-ADMN-1007 | 1171-ADMN-1008 |
|----------------|----------------|----------------|
| 1171-MANT-1241 | 1171-MANT-1248 | 1171-MANT-1277 |
| 1171-MANT-1278 | 1171-MANT-1284 | 1171-MANT-1285 |
| 1171-XENG-1677 | 1171-XENG-1678 | 1171-XENG-1684 |
| 1171-XENG-1685 | 1171-XENG-1702 | 1171-XENG-2553 |
| 1171-XENG-2653 | 1171-XENG-2752 | 1171-XENG-2753 |
| 1171-XENG-2853 |                |                |

#### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 5. TB MED 577 Occupational and Environmental Health Sanitary Control and Surveillance of Field Water Supplies

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17924 Water Supply Training Area

MATERIAL: Chemicals to sustain potable water

<u>UNITS/PERSONNEL</u>: Note: Request Navy Medical Technician and Preventive Medicine Technician (PMT), as required

CLB-UTIL-3009: Establish water distribution site

SUPPORTED MCT(S): MCT 4.4.3.1

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

**<u>DESCRIPTION</u>**: Establish an accessible and limited potable water distribution site for the supported unit in order to meet mission requirements.

CONDITION: With a utilities plan, required equipment and personnel.

**STANDARD:** To ensure operational requirements are met.

### **EVENT COMPONENTS:**

- 1. Determine water requirements.
- 2. Set up distribution system(s).
- Inspect system(s).
- 4. Test water for potability.
- 5. Distribute potable water.

## RELATED EVENTS:

| 1171-ADMN-1006 | 1171-ADMN-1007 | 1171-ADMN-1008 |
|----------------|----------------|----------------|
| 1171-ADMN-1009 | 1171-MANT-1241 | 1171-MANT-1248 |
| 1171-MANT-1271 | 1171-MANT-1272 | 1171-MANT-1274 |

| 1171-MANT-1277 | 1171-MANT-1278 | 1171-MANT-1279 |
|----------------|----------------|----------------|
| 1171-MANT-1280 | 1171-MANT-1284 | 1171-MANT-1285 |
| 1171-XENG-1648 | 1171-XENG-1677 | 1171-XENG-1678 |
| 1171-XENG-1680 | 1171-XENG-1684 | 1171-XENG-1685 |
| 1171-XENG-1702 | 1171-XENG-1748 | 1171-XENG-1771 |
| 1171-XENG-1772 | 1171-XENG-1774 | 1171-XENG-1779 |
| 1171-XENG-2752 | 1171-XENG-2753 | 1171-XENG-2754 |
| 1171-XENG-2853 |                |                |

## REFERENCES:

- 1. Appropriate Technical Manuals
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 5. TB MED 577 Occupational and Environmental Health Sanitary Control and Surveillance of Field Water Supplies

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17924 Water Supply Training Area

**EQUIPMENT:** Utilities equipment, water testing kit, PPE, MHE, motor

transport, tool kits, appropriate POLs

MATERIAL: Chemicals to sustain potable water

UNITS/PERSONNEL: Note: Request Navy Medical Technician and Preventive

Medicine Technician (PMT), as required

CLB-UTIL-3010: Provide laundry services

## SUPPORTED MCT(S):

MCT 4.4.3.1 MCT 4.4.4.1

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**DESCRIPTION:** Provide limited laundry services to meet mission requirements and commanders intent.

CONDITION: With a utilities plan, required equipment and personnel.

STANDARD: To ensure operational requirements are met.

# **EVENT COMPONENTS:**

- 1. Coordinate with supported unit(s).
- 2. Establish laundry facilities.
- 3. Implement laundry schedule.
- 4. Operate laundry unit(s).

#### RELATED EVENTS:

| 1171-ADMN-1006 | 1171-ADMN-1007 | 1171-ADMN-1008 |
|----------------|----------------|----------------|
| 1171-ADMN-1009 | 1171-MANT-1232 | 1171-MANT-1278 |
| 1171-MANT-1284 | 1171-MANT-1285 | 1171-XENG-1632 |

| 1171-XENG-1678 | 1171-XENG-1684 | 1171-XENG-1685 |
|----------------|----------------|----------------|
| 1171-XENG-1732 | 1171-XENG-2555 | 1171-XENG-2655 |
| 1171-XENG-2755 |                |                |

## REFERENCES:

1. MCRP 4-11.1D Field Hygiene and Sanitation

### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Utilities equipment, PPE, MHE, motor transport, tool kits

MATERIAL: Laundry detergent, gravel, lime, insecticide

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Note: Water does not have to be completely potable-untreated Class III fresh water can be utilized.

CLB-UTIL-3011: Provide shower services

## SUPPORTED MCT(S):

MCT 4.4.3.1 MCT 4.4.4.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Provide limited shower services to meet mission requirements and commanders intent.

**CONDITION:** With a utilities plan, required equipment and personnel.

STANDARD: To ensure operational requirements are met.

## **EVENT COMPONENTS:**

- 1. Coordinate with supported unit(s).
- 2. Establish shower facilities.
- 3. Implement shower schedule.
- 4. Operate shower unit(s).

## RELATED EVENTS:

| 1171-ADMN-1006 | 1171-ADMN-1007 | 1171-ADMN-1008 |
|----------------|----------------|----------------|
| 1171-ADMN-1009 | 1171-MANT-1231 | 1171-MANT-1278 |
| 1171-XENG-1631 | 1171-XENG-1678 | 1171-XENG-1731 |
| 1171-XENG-2555 | 1171-XENG-2655 | 1171-XENG-2755 |
| 1171-XENG-2855 |                |                |

## REFERENCES:

1. MCRP 4-11.1D Field Hygiene and Sanitation

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Utilities equipment, PPE, MHE, motor transport, tool kits, POLs

MATERIAL: Building material, cleaning supplies, lime, insecticide, gravel

UNITS/PERSONNEL: Note: Water must be potable (class I) for showers

CLB-UTIL-3012: Install plumbing in a structure

SUPPORTED MCT(S): MCT 4.4.3.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: Install a limited piping system in order to meet plumbing requirements and commander's intent.

CONDITION: Provided a mission, resources, required equipment, and personnel.

**STANDARD:** To establish water and sewer services per commanders intent to support mission requirements.

### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit(s).
- 2. Estimate and requisition materials, as required.
- 3. Calculate time required to plumb structure.
- 4. Gather tools and materials.
- 5. Set safety zone.
- 6. Verify the location of preexisting underground utility lines.
- 7. Install interior/exterior drainage plumbing system with appropriately sized vent(s), trap(s) and cleanout(s).
- 8. Pressurize drainage system to identify possible leaks.
- Install hot and cold water supply lines with shut-off and relief valve(s), as required.
- 10. Request qualified inspector to complete uncovered/rough-in plumbing inspection.
- 11. Install plumbing fixtures.
- 12. Request qualified personnel to install water meter and shut-off valve, as required.
- 13. Connect structure main water supply line to water meter, as required.
- 14. Request qualified personnel to install sewer/septic system, as required.
- 15. Connect structure main sanitation pipe(s) to sewer/septic system, as required.
- 16. Request qualified inspector to complete final plumbing inspection.
- 17. Submit required reports.

#### RELATED EVENTS:

| 1171-ADMN-1006 | 1171-XENG-1981 | 1171-XENG-1982 |
|----------------|----------------|----------------|
| 1171-XENG-1984 | 1171-XENG-1985 | 1171-XENG-1986 |
| 1171-XENG-2581 | 1171-XENG-2983 | 1171-XENG-2987 |

1171-XENG-2988 1171-XENG-2989

## REFERENCES:

1. UPC (IAPMO/ANSI) Uniform Plumbing Code - by International Association of Plumbing and Mechanical Officials/American National Standard Institute

## SUPPORT REQUIREMENTS:

**EQUIPMENT:** PPE, tools and kits

MATERIAL: Building materials

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Final inspection must be performed by a qualified inspector who is a graduate of one or more listed courses: Advanced Water Support Technician (AWST), Utilities Chief (UC), or Utilities Officer (UO) Course.

# ENG & UTIL T&R MANUAL

# CHAPTER 6

## ESB COLLECTIVE EVENTS

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## ENG & UTIL T&R MANUAL

## CHAPTER 6

#### ESB COLLECTIVE EVENTS

- **6000. PURPOSE.** Chapter 6 contains collective training events for the Engineer Support Battalion (ESB).
- **6001. EVENT CODING.** Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX. This chapter utilizes the following methodology:
- a. Field one. This field represents the community. This chapter contains the following community codes:

| Code | Descript | <u>ion</u> |           |
|------|----------|------------|-----------|
| ESB  | Engineer | Support    | Battalion |

b. Field two. This field represents the functional/duty area. This chapter contains the following functional/duty areas:

| Code | Description                |
|------|----------------------------|
| ADMN | Administration             |
| CMOB | Countermobility            |
| DEMO | Demolitions                |
| EOPS | Engineer Operations        |
| FUEL | Bulk Fuel                  |
| HEOP | Heavy Equipment Operations |
| HORZ | Horizontal Construction    |
| MANT | Maintenance                |
| MOBL | Mobility                   |
| PINF | Provisional Infantry       |
| PLAN | Planning                   |
| RECN | Engineer Reconnaissance    |
| SURV | Survivability              |
| UTIL | Utilities                  |
| VERT | Vertical Construction      |

c. Field three. This field provides the level at which the event is accomplished and numerical sequencing of events. This chapter contains the following event levels:

| <u>Code</u> | <u>Description</u> |  |  |
|-------------|--------------------|--|--|
| 7000        | Battalion Level    |  |  |
| 6000        | Company Level      |  |  |
| 5000        | Platoon Level      |  |  |
| 4000        | Squad Level        |  |  |
| 3000        | Team Level         |  |  |

# 6002. INDEX OF COLLECTIVE EVENTS

| YES YES YES YES YES YES | 7000-LEVEL EVENTS  Command and control engineer forces  Train engineer forces  Plan engineer operations  6000-LEVEL EVENTS  Command and control engineer forces | 6-<br>6-<br>6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| YES YES YES YES YES     | Train engineer forces Plan engineer operations 6000-LEVEL EVENTS Command and control engineer forces                                                            | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| YES YES YES YES         | Plan engineer operations 6000-LEVEL EVENTS Command and control engineer forces                                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| YES<br>YES<br>YES       | 6000-LEVEL EVENTS  Command and control engineer forces                                                                                                          | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| YES<br>YES              | Command and control engineer forces                                                                                                                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| YES<br>YES              |                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| YES                     |                                                                                                                                                                 | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                         | Conduct countermobility operations                                                                                                                              | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                         | Train engineer forces                                                                                                                                           | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| YES                     | Conduct engineer operations                                                                                                                                     | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| YES                     | Conduct tactical bulk fuel operations                                                                                                                           | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| YES                     | Conduct mobility operations                                                                                                                                     | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| YES                     |                                                                                                                                                                 | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| NO                      |                                                                                                                                                                 | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| YES                     |                                                                                                                                                                 | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                         |                                                                                                                                                                 | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| YES                     |                                                                                                                                                                 | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|                         |                                                                                                                                                                 | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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|                         | <del>-</del>                                                                                                                                                    | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| 150                     | (HLZ)                                                                                                                                                           | 0                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| YES                     | Construct combat roads                                                                                                                                          | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| YES                     | Install a medium girder bridge                                                                                                                                  | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| YES                     | Install Ribbon Bridge                                                                                                                                           | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| YES                     | Construct non-standard bridge                                                                                                                                   | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| YES                     | Repair non-standard bridge                                                                                                                                      | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| YES                     | Conduct rafting operations                                                                                                                                      | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| YES                     | Conduct area clearance operations                                                                                                                               | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| YES                     | Construct tactical landing zones                                                                                                                                | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| YES                     | Conduct airfield damage repair                                                                                                                                  | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| NO                      |                                                                                                                                                                 | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| YES                     | Harden existing structure                                                                                                                                       | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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| YES                     |                                                                                                                                                                 | 6-                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
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|                         | YES YES NO YES                                                                                                              | YES Conduct tactical bulk fuel operations YES Conduct mobility operations YES Employ non-standard bridging NO Provide provisional infantry YES Plan engineer operations YES Conduct survivability operations  **TOTAL CONTROLL OF THE PROVIDE STANDARD |

| ESB-CMOB-4003  | YES    | Employ demolitions in support of               | 6-             |
|----------------|--------|------------------------------------------------|----------------|
|                |        | countermobility operations                     |                |
| ESB-FUEL-4001  | NO     | Construct bulk fuel site                       | 6-             |
| ESB-FUEL-4002  | NO     | Conduct tactical bulk fuel operations          | 6-             |
| ESB-HEOP-4001  | YES    | Conduct MHE operations                         | 6-             |
| ESB-HORZ-4001  | YES    | Conduct horizontal construction                | 6-             |
| ESB-HORZ-4002  | YES    | Construct expedient drainage structure         | 6-             |
| ESB-MANT-4001  | YES    | Maintain engineer equipment                    | 6-             |
| ESB-MOBL-4001  | YES    | Conduct security for clearance operations      | 6-             |
| ESB-MOBL-4002  | NO     | Detect obstacles during clearance operations   | 6-             |
| ESB-MOBL-4003  | NO     | Breach obstacles for clearance operations      | 6-             |
| ESB-MOBL-4004  | YES    | Conduct dismounted route sweep operations      | 6-             |
| ESB-MOBL-4005  | NO     | Conduct deliberate breach                      | 6-             |
| ESB-MOBL-4006  | YES    | Conduct route improvement                      | 6-             |
| ESB-MOBL-4007  | NO     | Repair runway crater                           | 6-             |
| ESB-MOBL-4008  | NO     | Repair spall(s)                                | 6-             |
| ESB-MOBL-4009  | YES    | Repair road crater                             | 6-             |
| ESB-MOBL-4010  | YES    | Employ demolitions in support of mobility      | 6-             |
|                |        | operations                                     |                |
| ESB-MOBL-4011  | YES    | Assemble medium girder bridge                  | 6-             |
| ESB-MOBL-4012  | YES    | Assemble ribbon bridge                         | 6-             |
| ESB-MOBL-4013  | YES    | Assemble ribbon raft                           | 6-             |
| ESB-MOBL-4014  | YES    | Maneuver a standard military ribbon raft       | 6-             |
| ESB-PINF-4001  | NO     | Fight as Provisional Infantry                  | 6-             |
| ESB-RECN-4001  | YES    | Conduct Site Survey                            | 6-             |
| ESB-RECN-4002  | YES    | Conduct cache sweep                            | 6-             |
| ESB-RECN-4003  | YES    | Conduct zone reconnaissance                    | 6-             |
| ESB-RECN-4004  | YES    | Conduct route reconnaissance                   | 6-             |
| ESB-RECN-4005  | YES    | Conduct area reconnaissance                    | 6-             |
| ESB-SURV-4001  | YES    | Harden existing structure                      | 6-             |
| ESB-SURV-4002  | YES    | Construct field fortifications                 | 6-             |
| ESB-SURV-4003  | YES    | Construct Vehicle Control Point (VCP)          | 6-             |
| ESB-SURV-4004  | YES    | Construct Entry Access Point (EAP)             | 6-             |
| ESB-SURV-4005  | YES    | Construct earth filled barrier/structure       | 6-             |
| ESB-SURV-4006  | YES    | Employ demolitions in support of survivability | 6-             |
|                |        | operations                                     |                |
| ESB-UTIL-4001  | YES    | Provide tactical electrical power              | 6-             |
| ESB-UTIL-4002  | YES    | Provide potable water                          | 6-             |
| ESB-UTIL-4003  | YES    | Provide tactical hygiene support               | 6-             |
| ESB-VERT-4001  | YES    | Conduct vertical construction                  | 6-             |
| ESB-VERT-4002  | YES    | Construct wood frame structure                 | 6-             |
| ESB-VERT-4003  | YES    | Construct concrete block structure             | 6-             |
| ESB-VERT-4004  | YES    | Construct timber structure                     | 6-             |
| ESB-VERT-4005  | YES    | Repair existing structures                     | 6-             |
| ESB-VERT-4006  | YES    | Construct concrete structure                   | 6-             |
| ESB-VERT-4007  | NO     | Construct manufactured steel structure         | 6-             |
| TOD VIIII 1007 | 140    | 3000-LEVEL EVENTS                              | 1 ~            |
|                | 7700   | Employ explosive obstacles                     | 6-             |
| ESB-CMOR-3001  | Y H: C | LIMPLOY CAPLODIAC ONDUCACIO                    |                |
| ESB-CMOB-3001  | YES    |                                                | 6-             |
| ESB-CMOB-3002  | YES    | Build non-explosive obstacles                  | 6-             |
|                |        |                                                | 6-<br>6-<br>6- |

| ESB-DEMO-3002 | NO   | Destroy Bridge with demolitions                | 6-  |
|---------------|------|------------------------------------------------|-----|
| ESB-DEMO-3003 | NO   | Destroy tunnel with demolitions                | 6-  |
| ESB-DEMO-3004 | NO   | Destroy building with demolitions              | 6-  |
| ESB-FUEL-3001 | NO   | Operate bulk fuel distribution site            | 6-  |
| ESB-FUEL-3002 | NO   | Provide tactical bulk fuel storage             | 6-  |
| ESB-HEOP-3001 | NO   | Provide crane support                          | 6-  |
| ESB-HEOP-3002 | YES  | Provide Material Handling Equipment (MHE)      | 6-  |
| ESD HEOF SOUZ | 1110 | support                                        |     |
| ESB-HEOP-3003 | YES  | Provide earth moving equipment support         | 6-  |
| ESB-HORZ-3001 | YES  | Conduct dust abatement                         | 6-  |
| ESB-MANT-3001 | YES  | Maintain engineer equipment                    | 6-  |
| ESB-MANT-3002 | NO   | Employ maintenance team                        | 6-  |
| ESB-MANT-3003 | NO   | Maintain tactical power distribution system(s) | 6-  |
| ESB-MANT-3004 | YES  | Maintain water purification equipment          | 6-  |
| ESB-MANT-3005 | YES  | Maintain hygiene equipment                     | 6-  |
| ESB-MANT-3006 | NO   | Maintain refrigeration system(s)               | 6-  |
| ESB-MANT-3007 | NO   | Maintain Environmental Control Units (ECU)     | 6-  |
| ESB-MOBL-3001 | NO   | Operate small craft                            | 6-  |
| ESB-MOBL-3002 | YES  | Employ a medium machinegun team                | 6-  |
| ESB-MOBL-3003 | YES  | Employ a heavy machinegun team                 | 6-  |
| ESB-MOBL-3004 | NO   | Fell standing timber                           | 6-  |
| ESB-MOBL-3005 | NO   | Create a lane through an obstacle              | 6-  |
| ESB-MOBL-3006 | NO   | Proof a lane through an obstacle               | 6-  |
| ESB-MOBL-3007 | NO   | Mark a lane through an obstacle                | 6-  |
| ESB-RECN-3001 | YES  | Survey site for construction                   | 6-  |
| ESB-RECN-3002 | YES  | Conduct cache sweep                            | 6-  |
| ESB-RECN-3003 | YES  | Conduct obstacle reconnaissance                | 6-  |
| ESB-RECN-3004 | YES  | Conduct bridge reconnaissance                  | 6-  |
| ESB-RECN-3005 | YES  | Conduct road reconnaissance                    | 6-  |
| ESB-RECN-3006 | NO   | Assess damage to airfield surfaces             | 6-  |
| ESB-RECN-3007 | NO   | Assess damage to airfield facilities and       | 6-  |
|               |      | structures                                     |     |
| ESB-RECN-3008 | YES  | Conduct gap reconnaissance                     | 6-  |
| ESB-SURV-3001 | YES  | Construct trenches                             | 6-  |
| ESB-SURV-3002 | YES  | Construct shelter/bunkers                      | 6-  |
| ESB-SURV-3003 | YES  | Construct vehicle survivability position       | 6-  |
|               |      | position/revetment                             |     |
| ESB-SURV-3004 | YES  | Construct crew served weapons position         | 6-  |
| ESB-SURV-3005 | YES  | Construct overhead cover                       | 6-  |
| ESB-SURV-3006 | YES  | Construct individual fighting position         | 6-  |
| ESB-SURV-3007 | YES  | Construct triggering screen                    | 6-  |
| ESB-SURV-3008 | YES  | Construct vehicle fighting position            | 6-  |
| ESB-UTIL-3001 | YES  | Establish tactical power distribution system   | 6-  |
| ESB-UTIL-3002 | NO   | Provide floodlight support                     | 6-  |
| ESB-UTIL-3003 | YES  | Establish power generation sites               | 6-  |
| ESB-UTIL-3004 | NO   | Wire a structure for electricity               | 6-  |
| ESB-UTIL-3005 | NO   | Provide Environmental Control Unit (ECU)       | 6-  |
| 700 0111 3003 | 110  | Support                                        |     |
| ESB-UTIL-3006 | YES  | Provide refrigeration support                  | 6-  |
| ESB-UTIL-3007 | YES  | Produce potable water                          | 6-  |
| ESB-UTIL-3008 | NO   | Store potable water                            | 6-  |
| ESB-UTIL-3009 | NO   | Establish water distribution site              | 6-  |
| E0D-011T-3003 | MO   | EDIANTIBIL MARCI AIDRITHARTION DIRE            | 0 - |

| ESB-UTIL-3010 | NO | Provide laundry services        | 6- |
|---------------|----|---------------------------------|----|
| ESB-UTIL-3011 | NO | Provide shower services         | 6- |
| ESB-UTIL-3012 | NO | Install plumbing in a structure | 6- |

#### 6003. 7000-LEVEL EVENTS

ESB-ADMN-7001: Command and control engineer forces

## SUPPORTED MCT(S):

MCT 1.1.2 MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** As the MEF's general support engineer force, the ESB commander and staff will act as the SME on all general engineering functions for the MAGTF. The ESB commander organizes the battalion staff to enable command and control of the battalion, and provide staff support to any LCE engineer units assigned in support of the MAGTF. Collection efforts of higher and subordinate units, external agencies, and the battalion's S-2 are integrated to meet all intelligence requirements. The ESB intelligence officer actively participates in the engineer portion of the Group intelligence collection effort. The battalion is capable of self-administration.

CONDITION: Given an order commander's intent and references.

**STANDARD:** To exercise authority and direction over assigned forces, advise the commander on the use of engineer forces, and coordinate operations with adjacent engineers in the accomplishment of the mission in accordance with MCWP 3-17 Engineer Operations.

## **EVENT COMPONENTS:**

- 1. Establish COC and communications with higher, adjacent, supported and subordinate units.
- 2. Command assigned units.
- 3. Maintain the engineer common operational picture (COP).
- 4. Direct and coordinate current engineer operations and initiate appropriate actions.
- 5. Track commander's critical information requirements (CCIR).
- 6. Maintain status of available engineer resources.
- 7. Integrate engineer reconnaissance products with intelligence effort.
- 8. Make recommendations to the commander on the employment of engineer forces.

### CHAINED EVENTS:

| ESB-ADMN-6001 | ESB-CMOB-6001 | ESB-EOPS-6001 |
|---------------|---------------|---------------|
| ESB-EOPS-6002 | ESB-FUEL-6001 | ESB-MOBL-6001 |
| ESB-MOBL-6002 | ESB-PINF-6001 | ESB-PLAN-6001 |
| ESB-SURV-6001 |               |               |

#### **REFERENCES:**

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17 Engineering Operations
- 3. MCWP 3-43 Command and Control

4. MCWP 5-1 Marine Corps Planning Process (MCPP)

## SUPPORT REQUIREMENTS:

## RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

**EQUIPMENT:** C4ISR Assets

ESB-EOPS-7001: Train engineer forces

## SUPPORTED MCT(S):

| MCT | 1.1.2 | MCT 1.4.1 | MCT | 1.4.2 |
|-----|-------|-----------|-----|-------|
| MCT | 2.2.2 | MCT 4.4.1 | MCT | 4.4.2 |
| MCT | 4.4.3 | MCT 4.4.4 | MCT | 6.1.4 |

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Train engineer forces in order to sustain proficiency in mobility, countermobility, survivability, engineer reconnaissance, amphibious operations and tactical electrical power.

<u>CONDITION</u>: Given an engineer unit, approved Mission Essential Task List (METL), commanders training guidance, training plans, training schedules, resources and trainers.

**STANDARD:** To ensure that all requirements identified in performance steps (individual performance tasks) or event components (collective tasks) are addressed in sequence so all training evolutions achieve desired results in accordance with the references.

## **EVENT COMPONENTS:**

- 1. Conduct problem framing.
- 2. Identify collective training standards.
- 3. Conduct training assessment.
- 4. Determine training strategy.
- 5. Develop training guidance.
- 6. Develop a long range training plan.
- 7. Develop a mid-range training plan.
- 8. Develop a short-range training plan.
- 9. Develop weekly training schedules.
- 10. Develop lesson materials.
- 11. Develop training materials.
- 12. Conduct Operational Risk Assessment (ORA)
- 13. Conduct training.
- 14. Evaluate training.
- 15. Evaluate unit training plans.

## CHAINED EVENTS:

| ESB-ADMN-6001 | ESB-CMOB-6001 | ESB-EOPS-6001 |
|---------------|---------------|---------------|
| ESB-EOPS-6002 | ESB-FUEL-6001 | ESB-MOBL-6001 |

ESB-MOBL-6002 ESB-PINF-6001 ESB-PLAN-6001

ESB-SURV-6001

## **REFERENCES:**

- 1. MCO 1553.3\_ Unit Training Management (UTM) Program
- 2. MCRP 3-0A Unit Training Management Guide
- 3. MCRP 3-0B How to Conduct Training
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 5-1 Marine Corps Planning Process (MCPP)

### SUPPORT REQUIREMENTS:

### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17413 Field Training Area

## **ESB-PLAN-7001:** Plan engineer operations

## SUPPORTED MCT(S):

| MCT | 1.1.2 | MCT 1.4.1 | MCT | 1.4.2 |
|-----|-------|-----------|-----|-------|
| MCT | 2.2.2 | MCT 4.4.1 | MCT | 4.4.2 |
| MCT | 4.4.3 | MCT 4.4.4 | MCT | 6.1.4 |

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Plan engineer operations to identify all potential engineer requirements (e.g., mobility, countermobility, survivability, limited vertical and horizontal construction, topographic support and civil-military operations support) during the planning process. The ESB conducts its internal planning with focus on mobility, countermobility, survivability and utilities in accordance with the Marine Corps Planning Process (MCPP).

**CONDITION:** Given higher commander's initial guidance, battle space area evaluation, and a warning or operations order.

**STANDARD:** To identify the best use of engineer personnel and equipment consistent with problem framing, commander's intent, and concept of operations.

## **EVENT COMPONENTS:**

- 1. Perform problem framing.
- 2. Develop courses of action.
- 3. War game courses of action.
- 4. Compare courses of action.
- 5. Brief commanders.
- 6. Develop orders.
- 7. Transition to produce operations plan or order.
- 8. Develop branches and sequels, if applicable.

## CHAINED EVENTS: ESB-PLAN-6001

## REFERENCES:

1. JP 3-34 Engineer Doctrine for Joint Operations

- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 4. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 5. MCRP 3-17.7F Project Management
- 6. MCRP 3-17.7I Earthmoving Operations
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.4 Engineer Reconnaissance
- 9. MCWP 3-17.6 Survivability
- 10. MCWP 3-17.7 General Engineering
- 11. MCWP 3-17.8 Combined Arms Mobility Operations
- 12. MCWP 5-1 Marine Corps Planning Process (MCPP)

#### 6004. 6000-LEVEL EVENTS

ESB-ADMN-6001: Command and control engineer forces

SUPPORTED MCT(S): MCT 1.1.2

**EVALUATION-CODED:** YES **SUSTAINMENT INTERVAL:** 6 months

<u>DESCRIPTION</u>: Command and control engineer forces to exercise authority and direction over assigned forces, advise the Battalion Commander on the use of engineer forces, and coordinate operations with adjacent engineers.

CONDITION: Given an order and commanders intent.

<u>STANDARD</u>: To exercise authority and direction over assigned forces, advise the commander on the use of engineer forces, and coordinate operations with adjacent engineers in the accomplishment of the mission.

### **EVENT COMPONENTS:**

- 1. Establish COC.
- 2. Establish communications with higher, adjacent, supported and subordinate units.
- 3. Command assigned units.
- 4. Maintain the engineer Common Operational Picture (COP).
- 5. Direct/coordinate current engineer operations.
- 6. Initiate appropriate actions.
- 7. Track CCIRs.
- 8. Maintain status of available engineer resources.
- 9. Integrate engineer reconnaissance products into intelligence efforts.
- 10. Make recommendations to the commander.

## CHAINED EVENTS:

| ESB-CMOB-5001 | ESB-DEMO-5001 | ESB-FUEL-5001 |
|---------------|---------------|---------------|
| ESB-FUEL-5002 | ESB-HEOP-5001 | ESB-HORZ-5001 |
| ESB-HORZ-5002 | ESB-MANT-5001 | ESB-MOBL-5001 |
| ESB-MOBL-5002 | ESB-MOBL-5003 | ESB-MOBL-5004 |
| ESB-MOBL-5005 | ESB-MOBL-5006 | ESB-MOBL-5007 |
| ESB-MOBL-5008 | ESB-MOBL-5009 | ESB-MOBL-5010 |
| ESB-MOBL-5011 | ESB-MOBL-5012 | ESB-PINF-5001 |
|               |               |               |

ESB-RECN-5001 ESB-RECN-5002 ESB-UTIL-5001

ESB-VERT-5001

## REFERENCES:

1. JP 3-34 Engineer Doctrine for Joint Operations

- 2. MCWP 3-17 Engineering Operations
- 3. MCWP 3-43 Command and Control
- 4. MCWP 5-1 Marine Corps Planning Process (MCPP)

### SUPPORT REQUIREMENTS:

#### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

**MATERIAL:** C4ISR assets.

ESB-CMOB-6001: Conduct countermobility operations

SUPPORTED MCT(S): MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct countermobility operations to augment natural terrain with obstacle systems that disrupt the enemy's ability to maneuver its forces. With its movement disrupted, turned, fixed or blocked, the enemy is vulnerable.

<u>CONDITION</u>: Given a mission, commander's intent, available resources, location of adjacent and friendly forces, estimated location and most recent activities of enemy, weather conditions, defined area of operations, routes, rules of engagement (ROE), supporting arms plan and references.

**STANDARD:** To turn, block, fix, or disrupt enemy forces in accordance with the commander's intent and concept of operations.

## **EVENT COMPONENTS:**

- 1. Conduct countermobility planning.
- 2. Integrate countermobility plan into concept of operations.
- 3. Participate in supported unit planning.
- 4. Task organize.
- 5. Complete engineering portion to orders.
- 6. Issue orders.
- 7. Construct obstacles and barriers.
- 8. Maintain obstacles and barriers.
- 9. Submit reports as required.

## CHAINED EVENTS:

ESB-CMOB-5001 ESB-HEOP-5001

## REFERENCES:

1. MCWP 3-17.5 Combined Arms Obstacle Integration

- 2. MCWP 3-13.2 MINE WARFARE
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 5. MCWP 3-43 Command and Control

## ESB-EOPS-6001: Train engineer forces

#### SUPPORTED MCT(S):

| MCT 1.1.2 | MCT 1.4.1 | MCT 1.4.2 |
|-----------|-----------|-----------|
| MCT 2.2.2 | MCT 4.4.1 | MCT 4.4.2 |
| MCT 4.4.3 | MCT 4.4.4 | MCT 6.1.4 |

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Train engineer forces in order to sustain proficiency in mobility, countermobility, survivability, vertical/horizontal construction, bulk liquids, bridging and tactical utility support.

**CONDITION:** Given an engineer unit, approved Mission Essential Task List (METL), commanders training guidance, training plans, training schedules, resources and trainers.

**STANDARD:** To ensure that all requirements identified in performance steps (individual performance tasks) or event components (collective tasks) are addressed in sequence so all training evolutions achieve desired results.

#### **EVENT COMPONENTS:**

- 1. Conduct problem framing.
- 2. Identify collective training standards.
- 3. Conduct training assessment.
- 4. Determine training strategy.
- 5. Develop training guidance.
- 6. Develop a long range training plan.
- 7. Develop a mid-range training plan.
- 8. Develop a short-range training plan.
- 9. Develop weekly training schedules.
- 10. Develop lesson materials.
- 11. Develop training materials.
- 12. Conduct Operational Risk Assessment (ORA).
- 13. Conduct training.
- 14. Evaluate training.
- 15. Evaluate unit training plans.

#### CHAINED EVENTS:

| CHAINED EVENTO. |               |               |
|-----------------|---------------|---------------|
| ESB-CMOB-5001   | ESB-DEMO-5001 | ESB-FUEL-5001 |
| ESB-FUEL-5002   | ESB-HEOP-5001 | ESB-HORZ-5001 |
| ESB-HORZ-5002   | ESB-MANT-5001 | ESB-MOBL-5001 |
| ESB-MOBL-5002   | ESB-MOBL-5003 | ESB-MOBL-5004 |
| ESB-MOBL-5005   | ESB-MOBL-5006 | ESB-MOBL-5007 |
| ESB-MOBL-5008   | ESB-MOBL-5009 | ESB-MOBL-5010 |
| ESB-MOBL-5011   | ESB-MOBL-5012 | ESB-RECN-5001 |
| ESB-RECN-5002   | ESB-SURV-5001 | ESB-SURV-5002 |
| ESB-SURV-5003   | ESB-UTIL-5001 | ESB-VERT-5001 |

#### **REFERENCES:**

- 1. MCO 1553.3\_ Unit Training Management (UTM) Program
- 2. MCRP 3-0A Unit Training Management Guide
- 3. MCRP 3-0B How to Conduct Training
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 5-1 Marine Corps Planning Process (MCPP)

## SUPPORT REQUIREMENTS:

## RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

## ESB-EOPS-6002: Conduct engineer operations

## SUPPORTED MCT(S):

| MCT | 1.1.2 | MCT 1.4.1 | MCT | 1.4.2 |
|-----|-------|-----------|-----|-------|
| MCT | 2.2.2 | MCT 4.4.1 | MCT | 4.4.2 |
| MCT | 4.4.3 | MCT 4.4.4 | MCT | 6.1.4 |

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 3 months

<u>DESCRIPTION</u>: The ESB is the primary Marine engineer unit to provide expeditionary vertical/horizontal construction, utilities and engineer equipment support. Providing this support includes but is not limited to; Prepare plans, orders, and to direct, lead and coordinate forces in support of MAGTF operations.

<u>CONDITION</u>: Given a mission, commanders intent, available resources, location of adjacent and friendly forces, estimated location and most recent activities of enemy, weather conditions, defined area of operations, routes, rules of engagement (ROE), supporting arms plan, and security element.

**STANDARD:** In accordance with commander's intent, concept of operations and supported unit requirements.

## **EVENT COMPONENTS:**

- 1. Provide engineer reconnaissance and survey.
- 2. Repair, improve, and construct standard and non-standard bridging.
- 3. Construct and maintain expedient roads.
- 4. Construct, maintain, and improve vertical or short takeoff and landing sites.
- 5. Construct and maintain mission essential base camp requirements (temporary structures).
- 6. Provide technical and equipment assistance for erection of pre-engineered buildings.
- 7. Provide tactical utilities support.
- 8. Provide bulk fuel handling, storing, and dispensing services.
- 9. Develop, improve, and maintain drainage systems.
- 10. Provide technical assistance to support camouflage requirements.
- 11. Provide expeditionary horizontal construction.
- 12. Provide expeditionary vertical construction.

13. Provide material handling equipment support.

### CHAINED EVENTS:

| ESB-CMOB-5001 | ESB-DEMO-5001 | ESB-FUEL-5001 |
|---------------|---------------|---------------|
| ESB-FUEL-5002 | ESB-HEOP-5001 | ESB-HORZ-5001 |
| ESB-HORZ-5002 | ESB-MANT-5001 | ESB-MOBL-5001 |
| ESB-MOBL-5002 | ESB-MOBL-5003 | ESB-MOBL-5004 |
| ESB-MOBL-5005 | ESB-MOBL-5006 | ESB-MOBL-5007 |
| ESB-MOBL-5008 | ESB-MOBL-5009 | ESB-RECN-5001 |
| ESB-UTIL-5001 | ESB-VERT-5001 |               |

#### REFERENCES:

- 1. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 2. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 3. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 4. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 5. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 6. MCRP 3-17.7D Concrete and Masonry
- 7. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 8. MCRP 3-17.7F Project Management
- 9. MCRP 3-17.7G Military Soils Engineering
- 10. MCRP 3-17.7I Earthmoving Operations
- 11. MCRP 3-17.7K Theater of Operations Electrical Systems
- 12. MCRP 3-17.7N Base Camps
- 13. MCRP 3-17A Engineering Field Data
- 14. MCWP 3-17 Engineering Operations
- 15. MCWP 3-17.4 Engineer Reconnaissance
- 16. MCWP 3-17.5 Combined Arms Countermobility Operations
- 17. MCWP 4-11 Tactical-Level Logistics
- 18. NAVAIR 00-80T-115 Expeditionary Airfield NATOPS Manual
- 19. NAVAIR 51-60-A-1 Installation, Maintenance, Repackaging and Illustrated Parts Breakdown, AM-2 Airfield Mat and Accessories

## **SUPPORT REQUIREMENTS:**

## RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces Facility Code 17931 Medium/Heavy Equipment Training Area

**EQUIPMENT:** Engineer Earthmoving equipment, Engineer Material Handling equipment, Utilities equipment, Refrigeration equipment, Bulk fuel equipment, Combat Engineer tools & kits

UNITS/PERSONNEL: EOD support and Logistical support

**ESB-FUEL-6001:** Conduct tactical bulk fuel operations

SUPPORTED MCT(S): MCT 4.4.3

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Conduct Tactical Bulk Fuel operations in support of the MEF. The engineer support battalion (ESB) is responsible for providing general bulk fuel support to the MEF to include receipt, storage, distribution, and quality surveillance. Each ESB has one bulk fuel company to provide support to each respective MEF.

<u>CONDITION</u>: Given a mission order, estimated fuel requirements, required personnel and equipment, a communications plan, necessary support equipment and current references.

STANDARD: To provide uninterrupted fuel support per mission requirements.

#### **EVENT COMPONENTS:**

- 1. Review mission.
- 2. Determine type of set up for storage and distribution of fuel per mission requirements.
- 3. Task organized personnel and equipment needed.
- 4. Coordinate security requirements with supported unit as required.
- 5. Construct bulk fuel site.
- 6. Receipt for supplies.
- 7. Establish fuel systems communications plan.
- 8. Plan fuel distribution site for operations.
- 9. Establish a fuel laboratory quality surveillance and control program.
- 10. Submit required reports.

| CHAINED | EVENTS: |
|---------|---------|
|---------|---------|

| ESB-FUEL-5001   | ESB-FUEL-5002  | ESB-HEOP-5001  |
|-----------------|----------------|----------------|
| ESB-HORZ-5001   | ESB-HORZ-5002  | ESB-MANT-5001  |
| ESB-RECN-5001   | ESB-SURV-5001  |                |
|                 |                |                |
| RELATED EVENTS: |                |                |
| 1390-XENG-2001  | 1390-XENG-2002 | 1390-XENG-2003 |
| 1390-XENG-2004  | 1390-XENG-2005 | 1390-XENG-2007 |
| 1390-XENG-2009  | 1390-XENG-2010 | 1390-XENG-2011 |
| 1390-XENG-2012  | 1390-XENG-2013 | 1390-XENG-2014 |
| 1390-XENG-2015  | 1391-XENG-1001 | 1391-XENG-1002 |
| 1391-XENG-1003  | 1391-XENG-1004 | 1391-XENG-1005 |
| 1391-XENG-1006  | 1391-XENG-1007 | 1391-XENG-1008 |
| 1391-XENG-1009  | 1391-XENG-1010 | 1391-XENG-1012 |
| 1391-XENG-1013  | 1391-XENG-1014 | 1391-XENG-1015 |
| 1391-XENG-1016  | 1391-XENG-2001 | 1391-XENG-2002 |
| 1391-XENG-2003  | 1391-XENG-2004 | 1391-XENG-2005 |
| 1391-XENG-2006  | 1391-XENG-2007 | 1391-XENG-2008 |
| 1391-XENG-2009  | 1391-XENG-2010 | 1391-XENG-2011 |
| 1391-XENG-2012  | 1391-XENG-2013 | 1391-XENG-2014 |
| 1391-XENG-2015  | 1391-XENG-2016 | 1391-XENG-2017 |
| 1391-XENG-2018  | 1391-XENG-2019 |                |
|                 |                |                |

#### **REFERENCES:**

- 1. MCRP 4-11B Environmental Considerations
- 2. MCWP 3-17.4 Engineer Reconnaissance
- 3. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 4. MIL STD 3004 Quality Surveillance Handbook for Fuels, Lubricants and Related Products

- 5. TB 10-5430-253-13 Technical Bulletin for Collapsible Fabric Fuel tanks
- 6. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

## SUPPORT REQUIREMENTS:

#### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

Facility Code 17933 POL Training Area

**EQUIPMENT:** Engineer earthmoving equipment, Material Handling Equipment, Utilities equipment, Bulk fuel equipment, Motor Transport equipment, Engineer lifting equipment, Tactical communications equipment.

MATERIAL: Class III/IV

ESB-MOBL-6001: Conduct mobility operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Conduct mobility operations to enable the force commander to maneuver units into advantageous positions. It includes but is not limited to breaching, mounted route clearance, combat roads and trails, and assault bridging.

<u>CONDITION</u>: Given a mission, commanders intent, available resources, location of adjacent and friendly forces, estimated location and most recent activities of enemy, weather conditions, defined area of operations, routes, rules of engagement (ROE), supporting arms plan, and references.

**STANDARD:** To provide mobility for maneuver forces in accordance with the commander's intent and concept of operations.

# **EVENT COMPONENTS:**

- 1. Conduct mobility planning.
- 2. Conduct engineer reconnaissance.
- 3. Integrate mobility plan with the concept of operations.
- 4. Participate in supported unit planning.
- 5. Task organize.
- 6. Complete the engineering portion of the orders.
- 7. Issue orders.
- 8. Clear mobility obstructions.
- 9. Construct and maintain mobility corridors (i.e., roads, routes, bridges, landing zones, etc.).
- 10. Submit reports as required.

#### CHAINED EVENTS:

| ESB-HEOP-5001 | ESB-MOBL-5001 | ESB-MOBL-5002 |
|---------------|---------------|---------------|
| ESB-MOBL-5003 | ESB-MOBL-5004 | ESB-MOBL-5005 |
| ESB-MOBL-5006 | ESB-MOBL-5007 | ESB-MOBL-5008 |

ESB-MOBL-5009 ESB-MOBL-5012

ESB-MOBL-5010 ESB-MOBL-5011

### **REFERENCES:**

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. UNIT SOP Unit's Standing Operating Procedures
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.4 Engineer Reconnaissance
- 8. MCWP 3-17.8 Combined Arms Mobility Operations
- 9. TM 11275-15/3 Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment

## SUPPORT REQUIREMENTS:

## RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

ESB-MOBL-6002: Employ non-standard bridging

SUPPORTED MCT(S): MCT 1.4.1

**EVALUATION-CODED:** YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Non-standard bridging construction requires preliminary information that is adequate for planning and design. The construction method used will depend site constrains and availability of engineer equipment, materials and manpower. A through reconnaissance can prevent needless return trips to the proposed site. Before making any final decisions pertaining to construction, consider the following factors: Access roads, Approach roads, Width, Banks, Flow characteristics, Stream bottom, Elevation, and Materials.

CONDITION: Provided a mission, commander's intent, a gap, bridge MLC requirement, tools, vehicles, task organized personnel and references.

STANDARD: To construct a bridge that meets design specifications and intended bridge classification in accordance with the commander's intent, concept of operations and FM 5-446 Military Non-Standard Fixed Bridges.

### **EVENT COMPONENTS:**

- 1. Gather gap/site intelligence as required.
- 2. Analyze gap/site intelligence.
- 3. Determine bridge type based on gap and MLC as required.
- 4. Coordinate with supported unit.
- 5. Coordinate with supporting units.
- 6. Issue order.
- 7. Conduct site preparations as required.
- 8. Construct drainage structures/erosion controls as required.

- 9. Construct abutment(s) as required.
- 10. Construct intermediate supports as required.
- 11. Construct substructure components as required.
- 12. Construct superstructure components as required.
- 13. Verify MLC classification.
- 14. Turnover bridge to designated forces.
- 15. Submit required reports.

## CHAINED EVENTS:

ESB-HEOP-5001 ESB-MOBL-5005 ESB-MOBL-5006

ESB-MOBL-5007 ESB-MOBL-5008

### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17920 Panel Bridge Area

**EQUIPMENT:** Motor transportation equipment, Material Handling equipment

ESB-PINF-6001: Provide provisional infantry

SUPPORTED MCT(S): MCT 1.1.2

MCT 1.12.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Provide provisional infantry to participate in offensive operations such as attacks, raids, and movement to contact. Defensive operations that include withdrawal, patrolling, check point ops, convoy ops, and employment of organic weapons. Additional responsibilities may include operations other than war (civil disturbance, TRAP, cordon and search) and MOUT (attack, defend, patrol, clear a building, vehicle check point).

CONDITION: Given a requirement, commander's intent and references.

**STANDARD:** To ensure a deployable detachment is capable of providing task organized forces to a supported unit in accordance with the concept of operations.

#### **EVENT COMPONENTS:**

- 1. Conduct planning.
- 2. Task organize.
- 3. Issue orders.
- 4. Conduct inspections, rehearsals, and preparations.
- 5. Employ appropriate formations and tactics.
- 6. Conduct final preparations.
- 7. Utilize, coordinate and deconflict fires.
- 8. Employ supporting arms.
- 9. Establish redundant communications.
- 10. Treat and evacuate casualties.
- 11. Process detainees.
- 12. Send and receive required reports.

CHAINED EVENTS: ESB-PINF-5001

#### **REFERENCES:**

- 1. FM 21-75 Combat Skills of the Soldier
- 2. MCDP 1 Warfighting
- 3. MCWP 3-1 Ground Combat Operations
- 4. MCWP 5-1 Marine Corps Planning Process (MCPP)

## SUPPORT REQUIREMENTS:

## RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

Facility Code 17581 Machine Gun Field Fire Range

Facility Code 17730 Fire and Movement Range

ESB-PLAN-6001: Plan engineer operations

## SUPPORTED MCT(S):

| MCT | 1.1.2 | MCT 1.4.1 | MCT | 1.4.2 |
|-----|-------|-----------|-----|-------|
| MCT | 2.2.2 | MCT 4.4.1 | MCT | 4.4.2 |
| MCT | 4.4.3 | MCT 4.4.4 | MCT | 6.1.4 |

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 3 months

**DESCRIPTION:** Plan engineer operations to optimize the use of engineer personnel and equipment in accordance with mission analysis, commander's intent and concept of operations.

**CONDITION:** Given higher commander's initial guidance, battle space area evaluation, and a warning order or operations order.

**STANDARD:** To identify the best use of engineer personnel and equipment consistent with problem framing, commander's intent, and concept of operations.

## **EVENT COMPONENTS:**

- 1. Perform problem framing.
- 2. Develop courses of action.
- 3. War game courses of action.
- 4. Compare courses of action.
- 5. Conduct decision brief.
- 6. Develop orders.
- 7. Transition to produce operations plan or order.
- 8. Develop branches and sequels, if applicable.

## **RELATED EVENTS:**

| 1302-ADMN-1001 | 1302-ADMN-2001 | 1302-CMOB-1001 |
|----------------|----------------|----------------|
| 1302-CMOB-1002 | 1302-CMOB-1003 | 1302-DEMO-1001 |
| 1302-DEMO-1004 | 1302-DEMO-2001 | 1302-EOPS-1005 |
| 1302-FUEL-1001 | 1302-HORZ-1001 | 1302-HORZ-1002 |
| 1302-MOBL-1001 | 1302-MOBL-1002 | 1302-MOBL-1003 |
| 1302-MOBL-1005 | 1302-MOBL-1007 |                |

### REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.4 Engineer Reconnaissance
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-17.8 Combined Arms Mobility Operations
- 7. MCWP 5-1 Marine Corps Planning Process (MCPP)

**ESB-SURV-6001:** Conduct survivability operations

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Conduct survivability operations to provide survivability planning and positions for supported units (Such as construction of field fortifications, hardening of command, communication and combat train locations, weapon system firing positions, and infantry fighting combat positions).

**CONDITION:** Given a mission, commander's intent, warning and operations orders, available resources and references.

**STANDARD:** To provide survivability positions for supported units in accordance with the commander's intent and concept of operations.

## **EVENT COMPONENTS:**

- 1. Perform vulnerability assessment.
- 2. Integrate survivability plan with the concept of operations.
- 3. Conduct survivability planning.
- 4. Task organize.
- 5. Complete the engineering portion of the orders.
- 6. Issue orders.
- 7. Construct survivability positions.
- 8. Provide SME input to AF/FP plan, as required.
- 9. Maintain survivability positions, as required.
- 10. Maintain oversight of survivability construction efforts.
- 11. Receive and submit reports, as required.

# CHAINED EVENTS:

| ESB-SURV-5001 | ESB-SURV-5002 | ESB-SURV-5003 |
|---------------|---------------|---------------|
| ESB-VERT-5001 |               |               |

### RELATED EVENTS:

| 1302-SURV-1001 | 1302-SURV-1002 | 1302-SURV-1003 |
|----------------|----------------|----------------|
| 1371-SURV-1001 | 1371-SURV-2001 | 1371-SURV-2002 |

## REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCRP 3-17A Engineering Field Data
- 3. MCRP 3-17B Engineer Forms and Reports
- 4. MCWP 3-17 Engineering Operations

- 5. MCWP 3-17.6 Survivability
- 6. MCWP 5-1 Marine Corps Planning Process (MCPP)

## 6005. 5000-LEVEL EVENTS

ESB-CMOB-5001: Create an obstacle group

SUPPORTED MCT(S): MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: Create obstacle groups of two or more obstacles grouped to provide a specific obstacle effect turn, block, fix, or disrupt the enemy.

**CONDITION:** Given a mission, commander's intent, a map, designated area, task organized personnel and equipment and references.

**STANDARD:** To turn, block, fix, or disrupt the enemy and supports the commanders intent and concept of operations.

## **EVENT COMPONENTS:**

- 1. Develop/review obstacle plan.
- 2. Analyze engagement areas, battle positions, and weapons location.
- 3. Determine possible obstacle locations and types.
- 4. Identify the commander's obstacle priorities.
- 5. Determine resources.
- 6. Determine actual work sequence.
- 7. Determine task organization required.
- 8. Determine coordination required.
- 9. Coordinate with supported unit for specific obstacle placement and observation.
- 10. Coordinate observation and reporting for decision/triggering point(s) for reserve/situational obstacles as required.
- 11. Emplace explosive obstacle(s).
- 12. Create non-explosive obstacle(s).
- 13. Close lanes as required.
- 14. Submit required reports.

#### CHAINED EVENTS:

| ESB-CMOB-4001 | ESB-CMOB-4002 | ESB-CMOB-4003 |
|---------------|---------------|---------------|
| ESB-HEOP-3003 | ESB-HEOP-4001 |               |

## RELATED EVENTS:

| 1302-CMOB-1001 | 1302-CMOB-1002 | 1302-CMOB-1003 |
|----------------|----------------|----------------|
| 1371-CMOB-2001 | 1371-CMOB-2002 |                |

#### **REFERENCES:**

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. JP 3-15 Barriers, Obstacles, and Mine Warfare for Joint Operations
- 3. JP 3-34 Joint Engineer Operations
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance

7. MCWP 3-17.8 Combined Arms Mobility Operations

## SUPPORT REQUIREMENTS:

## RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

Facility Code 17830 Light Demolition Range

Facility Code 17931 Medium/Heavy Equipment Training Area

**EQUIPMENT:** Engineer Material Handling equipment, Combat Engineer equipment.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

## MISCELLANEOUS:

**ADMINISTRATIVE INSTRUCTIONS:** Type/quantities of ammunition, explosives and pyrotechnics are documented with the 4000 Level Events Chained to this event.

ESB-DEMO-5001: Conduct demolition operations

## SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2 MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct demolition operations to produce the desired effect. These tasks may include placing explosives near heavy weapons, enemy munitions, destroying cave systems, facilities, equipment, and improving mobility in urban terrain and designated or reserve targets.

**CONDITION:** Given a tactical situation, an order, task organized equipment and personnel, specifications, and appropriate references.

**STANDARD:** To achieve desired effects in accordance with commander's intent and concept of operations.

# **EVENT COMPONENTS:**

- 1. Receive demolition concept of operations.
- 2. Conduct engineer reconnaissance.
- 3. Destroy captured arms and ammunition as required.
- 4. Employ demolitions in support of mobility operations, as required.
- 5. Employ demolitions in support of survivability position construction as required.
- 6. Employ demolitions in support of counter-mobility operations as required.
- 7. Submit required reports.

## CHAINED EVENTS:

ESB-CMOB-4003 ESB-MOBL-4010 ESB-RECN-4002

ESB-SURV-4006

## RELATED EVENTS:

| 1302-DEMO-1001 | 1302-DEMO-1002 | 1302-DEMO-1003 |
|----------------|----------------|----------------|
| 1302-DEMO-1004 | 1302-RECN-1001 | 1371-DEMO-2001 |
| 1371-DEMO-2002 | 1371-RECN-1001 | 1371-RECN-2001 |

#### **REFERENCES:**

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. JP 3-15 Barriers, Obstacles, and Mine Warfare for Joint Operations
- 4. MCRP 3-17.7D Concrete and Masonry
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.2 MAGTF Explosive Ordnance Disposal
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.6 Survivability
- 11. MCWP 3-17.7 General Engineering
- 12. MCWP 3-17.8 Combined Arms Mobility Operations

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer demolitions kit, pioneer kit, PPE.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

#### MISCELLANEOUS:

**ADMINISTRATIVE INSTRUCTIONS:** Type/quantities of ammunition, explosives and pyrotechnics are in concert with the 4000-level events chained to this event.

ESB-FUEL-5001: Construct bulk fuel site

SUPPORTED MCT(S): MCT 4.4.3

**EVALUATION-CODED:** YES **SUSTAINMENT INTERVAL:** 6 months

**<u>DESCRIPTION</u>**: Construct and set up fuel storage and distribution systems to accommodate multiple fuel requirements in support of the MEF.

**CONDITION:** Provided a bulk fuel plan with a systems layout, a location, task-organized personnel and equipment.

**STANDARD:** To meet fuel support requirements in accordance with the commander's intent and the mobility plan.

## **EVENT COMPONENTS:**

- 1. Review mission.
- 2. Determine construction criteria.
- 3. Conduct engineer reconnaissance and survey.
- 4. Coordinate with supporting units.

- 5. Issue order.
- 6. Conduct site preparation as required.
- 7. Construct drainage structures as required.
- 8. Construct berms as required.
- 9. Install tactical fuel systems components.
- 10. Conduct dust abatement as required
- 11. Construct access road(s) as required.
- 12. Submit required reports.

#### CHAINED EVENTS:

| ESB-FUEL-3001 | ESB-FUEL-4001 | ESB-HEOP-4001 |
|---------------|---------------|---------------|
| ESB-HORZ-3001 |               |               |

### RELATED EVENTS:

| 1371-HORZ-2002 | 1371-HORZ-2003 | 1390-XENG-2001 |
|----------------|----------------|----------------|
| 1390-XENG-2011 | 1390-XENG-2012 | 1390-XENG-2014 |
| 1390-XENG-2015 | 1391-XENG-1001 | 1391-XENG-1014 |
| 1391-XENG-2009 | 1391-XENG-2017 | 1391-XENG-2018 |

### **REFERENCES:**

- 1. MCRP 4-11B Environmental Considerations
- 2. MCWP 3-17.4 Engineer Reconnaissance
- 3. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 4. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

### SUPPORT REQUIREMENTS:

#### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17413 Field Training Area Facility Code 17933 POL Training Area

**EQUIPMENT:** Engineer earthmoving equipment, Material Handling Equipment, Utilities equipment, Bulk fuel equipment, Motor Transport equipment, Engineer lifting equipment, and Tactical communications equipment.

MATERIAL: Class III/IV

ESB-FUEL-5002: Conduct tactical bulk fuel operations

**SUPPORTED MCT(S):** MCT 4.4.3

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Conduct tactical bulk fuel operations in support of the MEF.

**CONDITION:** Given a mission order, location of operation, estimated fuel requirements, required personnel and equipment, a communications plan, necessary support equipment and current references.

STANDARD: To provide uninterrupted fuel support per mission requirements.

## **EVENT COMPONENTS:**

- 1. Establish bulk fuel site security plan.
- 2. Construct bulk fuel site(s).
- 3. Establish bulk fuel site safety/environmental plan.
- 4. Coordinate for fuel receipt.
- 5. Receive fuel as required.
- 6. Store fuel.
- 7. Test fuel quality as required.
- 8. Coordinate for fuel distribution.
- 9. Dispense fuel as required.

## <u>CHAINED EVENTS</u>: ESB-FUEL-4002

| RELATED EVENTS: |                |                |
|-----------------|----------------|----------------|
| 1390-XENG-2001  | 1390-XENG-2002 | 1390-XENG-2003 |
| 1390-XENG-2004  | 1390-XENG-2005 | 1390-XENG-2006 |
| 1390-XENG-2007  | 1390-XENG-2009 | 1390-XENG-2010 |
| 1390-XENG-2011  | 1390-XENG-2012 | 1390-XENG-2013 |
| 1390-XENG-2014  | 1390-XENG-2015 | 1391-XENG-1001 |
| 1391-XENG-1002  | 1391-XENG-1003 | 1391-XENG-1004 |
| 1391-XENG-1005  | 1391-XENG-1006 | 1391-XENG-1007 |
| 1391-XENG-1008  | 1391-XENG-1009 | 1391-XENG-1011 |
| 1391-XENG-1012  | 1391-XENG-1013 | 1391-XENG-1014 |
| 1391-XENG-1015  | 1391-XENG-2001 | 1391-XENG-2002 |
| 1391-XENG-2003  | 1391-XENG-2004 | 1391-XENG-2005 |
| 1391-XENG-2006  | 1391-XENG-2007 | 1391-XENG-2008 |
| 1391-XENG-2009  | 1391-XENG-2010 | 1391-XENG-2011 |

1391-XENG-2013

1391-XENG-2016

1391-XENG-2019

ESB-HEOP-4001

## REFERENCES:

1391-XENG-2012

1391-XENG-2015

1391-XENG-2018

- 1. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 2. MIL STD 3004 Quality Surveillance Handbook for Fuels, Lubricants and Related Products
- 3. TB 10-5430-253-13 Technical Bulletin for Collapsible Fabric Fuel tanks

1391-XENG-2014

1391-XENG-2017

4. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

# SUPPORT REQUIREMENTS:

## RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17933 POL Training Area

**EQUIPMENT:** Material Handling Equipment, Bulk fuel equipment, Utilities equipment, Engineer earthmoving equipment, Motor Transport equipment, Engineer lifting equipment, Tactical communications equipment.

MATERIAL: Class III/IV

ESB-HEOP-5001: Provide engineer equipment support

## SUPPORTED MCT(S):

| MCT 1.4.1 | MCT 1.4.2 | MCT 4.4.1 |
|-----------|-----------|-----------|
| MCT 4.4.2 | MCT 4.4.3 | MCT 4.4.4 |
| MCT 6.1.4 |           |           |

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 3 months

**<u>DESCRIPTION</u>**: Provide engineer equipment support to the mission utilizing the required type(s) of engineer equipment and personnel.

<u>CONDITION</u>: Given a mission, a support plan, equipment availability, commander's intent, personnel and equipment, an area of operations or support and references.

**STANDARD:** To provide required engineer support in accordance with unit SOPs, concept of operations and commander's intent.

## **EVENT COMPONENTS:**

- 1. Review equipment support plan.
- 2. Analyze support requirements and location(s).
- 3. Determine resources.
- 4. Determine schedule of work.
- 5. Determine task organization.
- 6. Coordinate with supported unit (location, requirements, security, ground guides, etc.).

ESB-HORZ-4002

- 7. Coordinate logistics.
- 8. Manage engineer equipment operations.
- 9. Conduct earthmoving operations, as required.
- 10. Conduct material handling operations, as required.
- 11. Conduct horizontal construction, as required.
- 12. Conduct maintenance, as required.
- 13. Recover engineer equipment, as required.
- 14. Submit required reports.

## <u>CHAINED EVENTS</u>: ESB-HEOP-4001

| ESB-MANT-4001   | ESB-MOBL-4006  | ESB-MOBL-4007  |
|-----------------|----------------|----------------|
| ESB-MOBL-4008   | ESB-MOBL-4009  |                |
|                 |                |                |
| RELATED EVENTS: |                |                |
| 1310-ADMN-2001  | 1310-ADMN-2002 | 1310-ADMN-2003 |
| 1310-ADMN-2004  | 1310-ADMN-2005 | 1310-ADMN-2006 |
| 1310-ADMN-2008  | 1310-ADMN-2009 | 1310-ADMN-2010 |
| 1310-HEOP-2001  | 1310-HORZ-2001 | 1310-HORZ-2002 |
| 1310-HORZ-2003  | 1310-MANT-2001 | 1310-MANT-2002 |
| 1341-ADMN-2001  | 1341-ADMN-2002 | 1341-ADMN-2003 |
| 1341-ADMN-2004  | 1341-ADMN-2005 | 1341-ADMN-2006 |
| 1341-ADMN-2007  | 1341-ADMN-2008 | 1349-ADMN-2001 |
| 1349-ADMN-2002  | 1349-ADMN-2003 | 1349-ADMN-2004 |
| 1349-ADMN-2005  | 1349-ADMN-2006 | 1349-ADMN-2008 |
| 1349-ADMN-2009  | 1349-ADMN-2010 | 1349-HEOP-2001 |
| 1349-HORZ-2001  | 1349-HORZ-2002 | 1349-HORZ-2003 |
| 1349-MANT-2001  | 1349-MANT-2002 |                |

ESB-HORZ-4001

#### **REFERENCES:**

- 1. JP 3-34 Joint Engineer Operations
- 2. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 3. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 4. MCRP 3-17.7F Project Management
- 5. MCRP 3-17.7I Earthmoving Operations
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 3-17 Engineering Operations

### SUPPORT REQUIREMENTS:

**EQUIPMENT:** Engineer equipment, Motor Transport equipment, Utilities equipment.

<u>UNITS/PERSONNEL</u>: Engineer equipment maintainers, Utilities equipment maintainers.

**ESB-HORZ-5001:** Conduct horizontal construction

#### SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2 MCT 4.4.1 MCT 4.4.3 MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** To conduct horizontal construction in order to shape the terrain to meet the operational requirements of the MAGTF and includes expedient road construction and/or maintenance; expeditionary HLZs; site preparation for bed down facilities; and ordnance storage facilities.

**CONDITION:** Given a mission, commander's intent, tactical situation, task organized equipment and personnel, design specifications, construction materials and references.

**STANDARD:** To build the assigned project to meet or exceed the requirements listed in the design specifications, meets commander's intent and concept of operations.

### **EVENT COMPONENTS:**

- 1. Plan horizontal construction.
- 2. Conduct engineer reconnaissance.
- 3. Conduct survey, as required.
- 4. Coordinate horizontal construction.
- 5. Conduct site preparation.
- 6. Conduct soil stabilization/dust abatement, as required.
- 7. Construct non-explosive obstacles, as required.
- 8. Employ heavy equipment assets, as required.
- 9. Submit required reports.

## CHAINED EVENTS:

| ESB-CMOB-4002 | ESB-HEOP-4001 | ESB-HORZ-3001 |
|---------------|---------------|---------------|
| ESB-HORZ-4001 | ESB-HORZ-4002 | ESB-RECN-4001 |

## RELATED EVENTS:

| 1302-HORZ-1001 | 1302-HORZ-1002 | 1302-HORZ-1003 |
|----------------|----------------|----------------|
|                | 1001 0001      |                |

# 1302-RECN-1001 1371-RECN-2001

### REFERENCES:

- 1. FM 5-101-5-1 Operational Terrain and Symbols
- 2. JP 3-34 Joint Engineer Operations
- 3. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 4. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 5. MCRP 3-17.7D Concrete and Masonry
- 6. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 7. MCRP 3-17.7F Project Management
- 8. MCRP 3-17.7I Earthmoving Operations
- 9. MCRP 3-17A Engineering Field Data
- 10. MCWP 3-17 Engineering Operations
- 11. MCWP 3-17.4 Engineer Reconnaissance
- 12. MCWP 3-17.6 Survivability
- 13. MCWP 3-17.7 General Engineering
- 14. MCWP 3-17.8 Combined Arms Mobility Operations
- 15. MCWP 3-41.1 Rear Area Operations

## **SUPPORT REQUIREMENTS:**

## RANGE/TRAINING AREA:

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

Facility Code 17931 Medium/Heavy Equipment Training Area

 $\underline{\textbf{EQUIPMENT}} \colon$  Engineer earthmoving equipment, Engineer Material Handling Equipment, Utilities equipment.

**ESB-HORZ-5002:** Prepare site for construction

#### SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2 MCT 4.4.3

MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Prepare site for construction to reduce construction time and meet design specifications. This includes all types of limited vertical and horizontal construction.

**CONDITION:** Given a mission, a support plan, a site for construction or engineer operations, commander's intent, task organized personnel, equipment and references.

STANDARD: To reduce construction time and meet design specifications in

accordance with the concept of operations and commander's intent.

# **EVENT COMPONENTS:**

- 1. Review construction site plan.
- 2. Analyze support requirements and location(s).
- 3. Conduct final coordination with supported unit (location, requirements, security, ground guides, etc.).
- 4. Conduct final coordination with supporting units (logistics, etc.).
- 5. Move to site.
- 6. Conduct area clearance.
- 7. Conduct earthmoving operations as required.
- 8. Conduct demolition operations as required.
- 9. Conduct material handling operations as required.
- 10. Employ utilities support as required.
- 11. Submit required reports.

| CHAINED | EVENTS: |
|---------|---------|
|---------|---------|

| ESB-HEOP-4001 | ESB-HORZ-4001 | ESB-HORZ-4002 |
|---------------|---------------|---------------|
| ESB-RECN-4001 | ESB-RECN-4005 | ESB-UTIL-4001 |
| ESB-VERT-4001 |               |               |

# RELATED EVENTS:

| 1302-DEMO-1002 | 1302-HORZ-1001                                                                                                             |
|----------------|----------------------------------------------------------------------------------------------------------------------------|
| 1302-HORZ-1003 | 1302-MOBL-1003                                                                                                             |
| 1371-DEMO-1001 | 1371-DEMO-2002                                                                                                             |
| 1371-EOPS-2006 | 1371-EOPS-2007                                                                                                             |
| 1371-HORZ-1002 | 1371-HORZ-1003                                                                                                             |
| 1371-HORZ-2003 | 1371-HORZ-2004                                                                                                             |
| 1371-RECN-1001 | 1371-RECN-2001                                                                                                             |
| 1371-VERT-1002 | 1371-VERT-1003                                                                                                             |
| 1371-VERT-2001 | 1371-VERT-2002                                                                                                             |
|                | 1302-HORZ-1003<br>1371-DEMO-1001<br>1371-EOPS-2006<br>1371-HORZ-1002<br>1371-HORZ-2003<br>1371-RECN-1001<br>1371-VERT-1002 |

### REFERENCES:

- 1. FM 5-33 Terrain Analysis
- 2. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 3. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 4. MCRP 3-17.7F Project Management
- 5. MCRP 3-17.7I Earthmoving Operations
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance

### SUPPORT REQUIREMENTS:

**EQUIPMENT:** Engineer earthmoving equipment, Material Handling Equipment, Motor Transportation equipment, Utilities equipment.

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Type/quantities of ammunition, explosives and pyrotechnics are documented in concert with the 3000 level events chained to this event.

ESB-MANT-5001: Maintain engineer equipment

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 3 months

<u>DESCRIPTION</u>: Maintain engineer equipment by conducting preventive and corrective maintenance on engineer equipment using unit assigned maintenance levels.

**CONDITION:** With equipment, tools, repair parts, supplies, personnel and references.

**STANDARD:** To sustain equipment in an operational status at or above unit readiness requirements.

# **EVENT COMPONENTS:**

- 1. Manage Maintenance Programs.
- 2. Monitor Equipment Readiness.
- 3. Conduct Reconciliation.
- 4. Assign Tasks.
- 5. Maintain utilities equipment as required.
- 6. Maintain bulk fuel equipment as required.
- 7. Maintain MHE as required.
- 8. Maintain earthmoving equipment as required.
- 9. Maintain other organic tactical engineer equipment as required.
- 10. Submit required reports.

CHAINED EVENTS: ESB-MANT-4001

#### **RELATED EVENTS:**

| KETHIED EARINE. |                |                |
|-----------------|----------------|----------------|
| 1120-ADMN-2006  | 1120-ADMN-2007 | 1120-ADMN-2012 |
| 1120-ADMN-2021  | 1120-ADMN-2022 | 1120-ADMN-2041 |
| 1120-ADMN-2051  | 1120-ADMN-2052 | 1120-ADMN-2061 |
| 1120-ADMN-2065  | 1120-ADMN-2071 | 1120-ADMN-2072 |
| 1120-ADMN-2073  | 1120-ADMN-2074 | 1120-ADMN-2075 |
| 1310-ADMN-2004  | 1310-HEOP-2001 | 1310-MANT-2001 |
| 1310-MANT-2002  | 1316-ADMN-1001 | 1316-ADMN-1002 |
| 1316-ADMN-1003  | 1316-MANT-1002 | 1316-MANT-1004 |
| 1316-XENG-1001  | 1316-XENG-1002 | 1316-XENG-1004 |
| 1316-XENG-1005  | 1316-XENG-1006 |                |

#### **REFERENCES:**

- 1. Applicable technical references
- 2. DoDI 6055.1 DoD Safety and Occupational Health (SOH) Program
- 3. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 4. MCO 4790.18\_ Corrosion Prevention and Control (CPAC) Program
- 5. MCO 5100.29\_ Marine Corps Safety Program
- 6. MCO P4733.1\_ Marine Corps TMDE Calibration and Maintenance Program
- 7. MCWP 4-11 Tactical-Level Logistics
- 8. MCWP 4-11.4 Maintenance Operations
- 9. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 10. SOP Standard Operating Procedures (SOP)

- 11. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 12. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17931 Medium/Heavy Equipment Training Area

EQUIPMENT: Maintenance Contact vehicle

MATERIAL: Tools sets chests and kits

<u>UNITS/PERSONNEL</u>: Engineer equipment mechanics, utilities maintenance personnel, welders, equipment operators and bulk fuel personnel

OTHER SUPPORT REQUIREMENTS: POL and HAZ-MAT

# MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

ESB-MOBL-5001: Conduct obstacle breaching operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: Conduct obstacle breaching operations to breach lanes through enemy obstacles, to advance an attacking force to the far side of an obstacle that is covered by fire.

**CONDITION:** Given a mission, commander's intent, a map, designated area, tasked organized personnel, equipment, and references.

**STANDARD:** To breach lanes through enemy obstacles to support the commander's intent and concept of operations.

- 1. Gather obstacle intelligence as required.
- 2. Analyze obstacle intelligence.
- 3. Determine breach requirement.
- 4. Task organize obstacle clearing detachment(s) (OCD).
- 5. Coordinate suppression of enemy over-watching obstacle.
- 6. Coordinate obscuration of enemy over-watching obstacle.
- 7. Coordinate security for breach lanes.
- 8. Coordinate breach with assault force, support force, and support breach team(s).
- 9. Verify suppression/obscuration effects.
- 10. Breach lanes through obstacle(s).
- 11. Turnover lane(s) to designated forces.
- 12. Reconstitute the breach force.
- 13. Submit required reports.

CHAINED EVENTS:

ESB-HEOP-4001 ESB-MOBL-4003 ESB-MOBL-4005

ESB-MOBL-4010

RELATED EVENTS:

1302-MOBL-1005 1302-RECN-1001 1371-MOBL-1003 1371-MOBL-2012 1371-MOBL-2017 1371-RECN-1001

1371-RECN-2001

#### **REFERENCES:**

1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations

- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.3 MAGTF Breaching Operations
- 8. MCWP 3-17.8 Combined Arms Mobility Operations

# SUPPORT REQUIREMENTS:

# RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

Facility Code 17931 Medium/Heavy Equipment Training Area

**EQUIPMENT:** Combat Engineer Breaching equipment, Engineer Earthmoving

equipment, Engineer Material Handling equipment

UNITS/PERSONNEL: Range Safety officer, Corpsman

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Type/quantities of ammunition, explosives and pyrotechnics are documented with the 4000 Level Events Chained to this event.

ESB-MOBL-5002: Conduct breach lane improvement operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** As the breach force progresses, it creates two lanes in the tactical obstacles. The breach force marks lanes with the initial lanemarking pattern and passes the assault force through the lanes. At this stage of the breaching operation, the TF maintains lanes in the tactical obstacles and controls all movement of forces within the breach area.

**CONDITION:** Given a mission, commander's intent, a map, a breached lane marked to initial standard, tasked organized personnel, equipment, and references.

**STANDARD:** To improve breach lanes through enemy obstacles to support two-way traffic, in accordance with the commander's intent and concept of operations.

### **EVENT COMPONENTS:**

- 1. Analyze breach lane reporting.
- 2. Determine breach lane improvement requirements.
- 3. Task organize support breach teams.
- 4. Coordinate receipt of breached lanes.
- 5. Coordinate security for breach lanes as required.
- 6. Improve breach lanes for trafficability as required.
- 7. Widen lanes as required.
- 8. Mark lanes as required.
- 9. Submit required reports.
- 10. Turnover lane(s) to designated forces.
- 11. Reconstitute the support breach team.

# CHAINED EVENTS:

| ESB-HEOP-4001 | ESB-MOBL-4006 | ESB-MOBL-4009 |
|---------------|---------------|---------------|
| ESB-MOBL-4010 |               |               |

#### RELATED EVENTS:

| 1302-MOBL-1004 | 1302-MOBL-1005 | 1302-MOBL-1009 |
|----------------|----------------|----------------|
| 1371-MOBL-1001 | 1371-MOBL-1003 | 1371-MOBL-2012 |
| 1371-MOBL-2017 | 1371-MOBL-2022 |                |

#### **REFERENCES:**

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17A Engineering Field Data
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.3 MAGTF Breaching Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3-17.8 Combined Arms Mobility Operations
- 7. MCWP 4-11 Tactical-Level Logistics

# SUPPORT REQUIREMENTS:

### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces

**EQUIPMENT:** Engineer Earthmoving equipment, Combat Engineer Breaching equipment

**ESB-MOBL-5003:** Construct expedient Helicopter Landing Zone (HLZ)

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Conduct construction of expedient HLZ; includes but is not limited to clearing and grubbing geographical locations for takeoff and landing of rotary wing in support of troop transport, resupply, MEDEVAC operations, etc.

**CONDITION:** Given a mission, commander's intent, available resources, and references.

**STANDARD:** To create a landing site that will support rotary wing aircraft for the loading and unloading of personnel, resupply, and equipment in accordance with commander's intent, concept of operations and supported unit requirements.

### **EVENT COMPONENTS:**

- 1. Task organize
- 2. Conduct engineer reconnaissance.
- 3. Conduct survey.
- 4. Coordinate resource requirements.
- 5. Issue the order.
- 6. Clear landing site.
- 7. Maintain/improve landing site as required.
- 8. Submit required reports.

# CHAINED EVENTS:

| ESB-HEOP-4001 | ESB-HORZ-4001 | ESB-MOBL-3004 |
|---------------|---------------|---------------|
| ESB-MOBL-4010 | ESB-RECN-4001 |               |

# RELATED EVENTS:

| 1302-MOBL-1016 | 1302-RECN-1001 | 1371-EOPS-1003 |
|----------------|----------------|----------------|
| 1371-EOPS-2008 | 1371-MOBL-2001 | 1371-RECN-1001 |

### REFERENCES:

- 1. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 2. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 3. MCRP 3-17.7F Project Management
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3-17.8 Combined Arms Mobility Operations

# SUPPORT REQUIREMENTS:

# RANGE/TRAINING AREA:

Facility Code 17420 Maneuver/Training Area, Heavy Forces Facility Code 17918 Road/Airfield Construction Training Site

**EQUIPMENT:** Engineer Earthmoving equipment, Engineer Material Handling equipment

ESB-MOBL-5004: Construct combat roads

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** The ESB has the most robust capability to conduct this type of construction. Combat roads and trails may be hastily cut pathways designed

to initial standards in order to enhance mobility for only a short time (less than six months). More permanent road networks, such as MSRs and primary LOCs, are designed to temporary standards to sustain mobility for a longer period of time (up to two years). During contingency operations, nearly all roads are constructed to temporary standards. Engineers should always strive to take full advantage of existing infrastructure and natural terrain features when constructing combat trails and roads.

**CONDITION:** Provided a mission order, commander's intent, a tactical situation, task organized engineer equipment and personnel.

**STANDARD:** That meets the minimum traffic support requirements in accordance with the commander's intent and the mobility plan.

# **EVENT COMPONENTS:**

- 1. Review mission.
- 2. Conduct engineer reconnaissance.
- 3. Conduct survey.
- 4. Task organize.
- 5. Coordinate with supporting units.
- 6. Issue order.
- 7. Conduct site preparations as required.
- 8. Clear the road.
- 9. Construct expedient drainage structures as required.
- 10. Conduct expedient soil stabilization as required.
- 11. Submit required reports.

# CHAINED EVENTS:

| ESB-HEOP-4001   | ESB-HORZ-4001  | ESB-HORZ-4002  |
|-----------------|----------------|----------------|
| ESB-MOBL-4006   | ESB-MOBL-4009  | ESB-MOBL-4010  |
| ESB-RECN-4001   | ESB-RECN-4004  |                |
|                 |                |                |
| RELATED EVENTS: |                |                |
| 1302-HORZ-1002  | 1302-HORZ-1003 | 1302-MOBL-1001 |
| 1302-RECN-1001  | 1310-HEOP-2001 | 1310-HORZ-2001 |
| 1310-HORZ-2002  | 1310-HORZ-2003 | 1345-HEOP-1003 |
| 1345-HEOP-1006  | 1345-HEOP-2001 | 1345-HORZ-2001 |
| 1345-MANT-2001  | 1349-HEOP-2001 | 1349-HORZ-2001 |
| 1349-HORZ-2002  | 1349-HORZ-2003 | 1349-MANT-2002 |
| 1371-EOPS-2002  | 1371-EOPS-2003 | 1371-EOPS-2007 |
| 1371-EOPS-2011  | 1371-HORZ-2001 | 1371-HORZ-2002 |
| 1371-HORZ-2003  | 1371-RECN-1001 | 1371-RECN-2001 |
|                 |                |                |

### REFERENCES:

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 3. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 4. MCRP 3-17.7F Project Management
- 5. MCRP 3-17.7I Earthmoving Operations
- 6. MCRP 3-17.7L Explosives and Demolitions
- 7. MCRP 3-17A Engineering Field Data
- 8. MCWP 3-17 Engineering Operations

- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.8 Combined Arms Mobility Operations
- 11. MCWP 4-11 Tactical-Level Logistics

# SUPPORT REQUIREMENTS:

#### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

Facility Code 17918 Road/Airfield Construction Training Site

**EQUIPMENT:** Engineer Material Handling Equipment, Combat engineer

equipment, Utilities equipment.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

ESB-MOBL-5005: Install a medium girder bridge

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** This task applies to Bridge companies with organic equipment readily available to perform mobility operations in support of the MAGTF. The medium-girder bridge (MGB) is a lightweight, hand-built, easily transportable bridge that can be erected in various configurations to cover a full range of military and emergency bridging requirements. The deck units are fitted between two longitudinal girders to provide a 13-foot-wide roadway. A bridge set has sufficient components to construct one 102-foot bridge in a double-story configuration or three 31-foot bridges in a single-story configuration. The MGB is constructed on rollers and launched using a detachable launching nose. It is transported on 7 ton trucks with trailers.

**CONDITION:** Provided a mission, commanders intent, a bridge construction site, Medium Girder Bridge (MGB) components, tools, launch vehicle, task organized personnel, and reference.

**STANDARD:** To meet design specifications and intended bridge classification in accordance with the commander's intent, concept of operations and TM 5-5420-212-12 Medium Girder Bridge.

- 1. Gather gap intelligence as required.
- 2. Analyze gap intelligence.
- 3. Task organize.
- 4. Coordinate with supported unit.
- 5. Coordinate with supporting units.
- 6. Issue order.
- 7. Prepare site for construction.
- 8. Emplace erection set.
- 9. Build the bridge.
- 10. Emplace reinforcement components as required.

- 11. Dress the bridge as required.
- 12. Submit required reports.
- 13. Turnover lane(s) to designated forces.
- 14. Recover as required.

CHAINED EVENTS: ESB-MOBL-4011

#### RELATED EVENTS:

| 1302-EOPS-1009 | 1302-HORZ-1001 | 1302-HORZ-1003 |
|----------------|----------------|----------------|
| 1302-MOBL-1012 | 1302-RECN-1001 | 1310-HEOP-2001 |
| 1310-MANT-2002 | 1345-HEOP-1003 | 1345-HEOP-1006 |
| 1349-HEOP-2001 | 1349-MANT-2002 | 1371-EOPS-2002 |
| 1371-EOPS-2003 | 1371-EOPS-2011 | 1371-HORZ-2001 |
| 1371-MOBL-1004 | 1371-MOBL-2002 | 1371-MOBL-2007 |
| 1371-RECN-1001 | 1371-RECN-2001 |                |

### **REFERENCES:**

- 1. MCRP 3-17A Engineering Field Data
- 2. MCWP 3-17.8 Combined Arms Mobility Operations
- 3. TM 08676A-10/1-1 Operators Manual Medium Girder Bridge
- 4. TM 5-5420-212-12 Medium Girder Bridge
- 5. TM 5-5420-212-12-1 Link Reinforcement Set

### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17920 Panel Bridge Area

EQUIPMENT: MTVR 7/Ton Truck, Engineer Material Handling Equipment

**<u>UNITS/PERSONNEL:</u>** Range safety officer, corpsman, MTVR 7ton truck operator

ESB-MOBL-5006: Install Ribbon Bridge

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: This task applies to Bridge companies with organic equipment readily available to perform mobility operations in support of the MAGTF.

<u>CONDITION</u>: Provided a mission, commander's intent, a bridging site (wet gap), Improved Ribbon Bridge (IRB) components, Bridge Erection Boats (BEB), tools, vehicles, task organized personnel, and reference.

**STANDARD:** To meet design specifications and intended bridge classification in accordance with, the concept of operations, commanders intent, and TM 5420-209-12 Operators and Organizational Manual Improved Floating (Ribbon Bridge).

- 1. Analyze gap/site intelligence.
- 2. Gather gap/site intelligence as required.
- 3. Task organize.

- 4. Coordinate with supported unit.
- 5. Coordinate with supporting units.
- 6. Issue order.
- 7. Prepare approach(s) as required.
- 8. Assemble components for bridge.
- 9. Anchor bridge as required.
- 10. Direct vehicles and equipment onto bridge.
- 11. Direct vehicles and equipment off bridge.
- 12. Submit required reports.
- 13. Turnover to designated forces as required.
- 14. Recover as required.

CHAINED EVENTS: ESB-MOBL-4012

### RELATED EVENTS:

| 1302-MOBL-1011 | 1302-MOBL-1015 | 1310-HEOP-2001 |
|----------------|----------------|----------------|
| 1310-MANT-2002 | 1345-HEOP-1006 | 1349-HEOP-2001 |
| 1349-MANT-2002 | 1371-EOPS-2011 | 1371-MOBL-2003 |
| 1371-MOBL-2004 | 1371-MOBL-2007 | 1371-MOBL-2028 |

### **REFERENCES:**

- 1. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 2. MCRP 3-17A Engineering Field Data
- 3. MCRP 3-17B Engineer Forms and Reports
- 4. MCWP 3-17.8 Combined Arms Mobility Operations
- 5. TM 5-1940-277-10 Operators Manual Bridge Erection Boat USCSBMK 1&2
- 6. TM 5420-209-12 Operators and Organizational Manual Improved Floating Bridge (Ribbon Bridge)

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17922 Floating Bridge Site

EQUIPMENT: MK 48/18, IRB Interior Bay, IRB Ramp Bay, MK III BEB

**UNITS/PERSONNEL:** Range Safety Officer, Corpsman, MK 48/18, Operator, MK II

BEB Operator

ESB-MOBL-5007: Construct non-standard bridge

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** New-bridge construction requires preliminary information that is adequate for planning and design. The construction method used will depend on site constraints and the availability of equipment, materials, and manpower. A thorough reconnaissance can prevent needless return trips to the proposed site. Before making any final decisions pertaining to construction, consider the following factors: Access roads, Approach roads, Width, Banks, Flow characteristics, Stream bottom, Elevation, and Materials.

CONDITION: Provided a mission, commanders intent, a gap, bridge MLC

requirement, tools, vehicles, task organized personnel, and reference.

<u>STANDARD</u>: To construct a bridge that meets design specifications and intended bridge classification in accordance with the concept of operations, commander's intent and MCRP 3-17.1b Military Non-Standard Fixed Bridges.

### **EVENT COMPONENTS:**

- 1. Gather gap/site intelligence as required.
- 2. Analyze gap/site intelligence.
- 3. Determine bridge type based on gap and MLC as required.
- 4. Coordinate with supported unit.
- 5. Coordinate with supporting units.
- 6. Issue order.
- 7. Conduct site preparations as required.
- 8. Construct drainage structures/erosion controls as required.
- 9. Construct abutment(s) as required.
- 10. Construct intermediate supports as required.
- 11. Construct substructure components as required.
- 12. Construct superstructure components as required.
- 13. Verify MLC classification.
- 14. Turnover bridge to designated forces.
- 15. Submit required reports.

### CHAINED EVENTS:

| ESB-RECN-3008   | ESB-RECN-4001  | ESB-RECN-4003  |
|-----------------|----------------|----------------|
| ESB-RECN-4004   | ESB-RECN-4005  |                |
|                 |                |                |
| RELATED EVENTS: |                |                |
| 1302-EOPS-1009  | 1302-HORZ-1001 | 1302-HORZ-1002 |
| 1302-RECN-1001  | 1310-HEOP-2001 | 1310-HORZ-2001 |
| 1310-HORZ-2002  | 1310-HORZ-2003 | 1345-HEOP-1003 |
| 1345-HEOP-1006  | 1345-HEOP-1007 | 1371-EOPS-2002 |
| 1371-EOPS-2003  | 1371-HORZ-2002 | 1371-HORZ-2003 |
| 1371-MOBL-2002  | 1371-MOBL-2004 | 1371-MOBL-2007 |
| 1371-MOBL-2008  | 1371-MOBL-2009 | 1371-RECN-1001 |
| 1371-RECN-2001  |                |                |

# REFERENCES:

- 1. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 2. MCWP 3-17.8 Combined Arms Mobility Operations

# **SUPPORT REQUIREMENTS:**

RANGE/TRAINING AREA: Facility Code 17920 Panel Bridge Area

EQUIPMENT: Motor transportation equipment, Material Handling equipment

ESB-MOBL-5008: Repair non-standard bridge

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Use existing bridges whenever possible. Bridges located on established routes require less work on the approaches, which saves time and material and permits the release of tactical bridging assets to other areas. Also, bridge repair often eliminates long detours and difficult bypasses. If necessary, determine how the characteristics of the gap will affect additional bents or pile piers and where there are alternate sites.

**CONDITION:** Provided a mission, commanders intent, a damaged bridge, bridge MLC requirement, tools, vehicles, task organized personnel, and reference.

**STANDARD:** To ensure the bridge in functional and repairs meet design specifications in accordance with the concept of operations, commander's intent and MCRP 3-17.1b Military Non-Standard Fixed Bridges.

#### **EVENT COMPONENTS:**

- 1. Gather gap/site intelligence, as required
- 2. Analyze gap/site intelligence.
- 3. Determine bridge repairs type based on type and MLC as required
- 4. Coordinate with supported unit.
- 5. Coordinate with supporting units.
- 6. Issue order.
- 7. Conduct site preparations, as required.
- 8. Repair drainage structures/erosion controls, as required.
- 9. Repair abutment(s), as required.
- 10. Repair intermediate supports, as required.
- 11. Repair substructure components, as required.
- 12. Repair superstructure components, as required.
- 13. Verify MLC classification.
- 14. Turnover bridge to designated forces.
- 15. Submit required reports.

**CHAINED EVENTS:** ESB-RECN-3004

### RELATED EVENTS:

1302-HORZ-1002 1302-MOBL-1013 1302-RECN-1001 1371-HORZ-2002 1371-HORZ-2003 1371-MOBL-2009

# REFERENCES:

- 1. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 2. MCWP 3-17.8 Combined Arms Mobility Operations

# **SUPPORT REQUIREMENTS:**

RANGE/TRAINING AREA: Facility Code 17920 Panel Bridge Area

**EQUIPMENT:** Motor transportation equipment, Material Handling equipment

ESB-MOBL-5009: Conduct rafting operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Rafts are employed to cross wet-gaps when standard and non-standard bridging is unavailable or inadequate. Rafts are employed to cross wet gaps when time is critical; when floating bridging is unavailable or impractical; or when they are supporting a larger wet gap.

**CONDITION:** Provided a mission, commanders intent, a rafting site (wet gap), Improved Ribbon Bridge (IRB) components, Bridge Erection Boats (BEB), tools, vehicles, task organized personnel, and reference.

**STANDARD:** To meet design specifications and intended raft classification in accordance with concept of operations and commander's intent.

ESB-MOBL-4014 ESB-RECN-3008

### **EVENT COMPONENTS:**

- 1. Gather gap intelligence as required.
- 2. Analyze gap intelligence.
- 3. Task organize.
- 4. Coordinate with supported unit.
- 5. Coordinate with supporting units.
- 6. Issue order.
- 7. Prepare approach(s) as required.
- 8. Assemble raft(s).
- 9. Prepare boats for rafting operations.
- 10. Load vehicles and equipment.
- 11. Transport vehicle(s) and equipment across the gap.
- 12. Unload vehicles and equipment.
- 13. Submit required reports.
- 14. Recover as required.

# <u>CHAINED EVENTS</u>: ESB-MOBL-4013

| RELATED EVENTS: |                |                |
|-----------------|----------------|----------------|
| 1302-MOBL-1011  | 1302-MOBL-1015 | 1302-RECN-1001 |
| 1371-MOBL-2003  | 1371-MOBL-2004 | 1371-MOBL-2005 |
| 1371-MOBL-2006  |                |                |

# REFERENCES:

- 1. MCRP 3-17A Engineering Field Data
- 2. MCWP 3-17 Engineering Operations
- 3. MCWP 3-17.1 Combined Arms Gap-Crossing Operations
- 4. MCWP 3-17.8 Combined Arms Mobility Operations

### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17922 Floating Bridge Site

**EQUIPMENT:** Motor Transportation Vehicles

**ESB-MOBL-5010:** Conduct area clearance operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

**CONDITION:** Provided a mission, designated area with known/potential/suspected obstacle(s), personnel, engineer tools and equipment, intelligence support, demolitions tools, explosives, and references.

**STANDARD:** To eliminate all obstacle(s) [explosive or non-explosive] in an area to provide a secure environment for military operations in accordance with the commander's intent.

### **EVENT COMPONENTS:**

- 1. Task organize.
- 2. Conduct engineer reconnaissance and survey.
- 3. Estimate engineer equipment requirements.
- 4. Coordinate necessary support.
- 5. Finalize clearing plan.
- 6. Issue the order.
- 7. Locate all obstacle(s).
- 8. Identify all obstacle(s).
- 9. Reduce obstacle(s).
- 10. Verify obstacle reduction.
- 11. Coordinate explosive ordnance disposal activities as required.
- 12. Coordinate weapons intelligence team activities as required.
- 13. Coordinate with other specialist personnel as required.
- 14. Mark cleared area as required.
- 15. Submit required reports.

# CHAINED EVENTS:

| <u> </u>        |                |                |
|-----------------|----------------|----------------|
| ESB-MOBL-4001   | ESB-MOBL-4002  | ESB-MOBL-4004  |
| ESB-RECN-5001   |                |                |
|                 |                |                |
| RELATED EVENTS: |                |                |
| 1302-MOBL-1003  | 1302-MOBL-1004 | 1302-MOBL-1005 |
| 1302-MOBL-1009  | 1302-MOBL-1010 | 1302-RECN-1001 |
| 1371-DEMO-1001  | 1371-MOBL-1001 | 1371-MOBL-1002 |
| 1371-MOBL-1003  | 1371-MOBL-2012 | 1371-MOBL-2017 |
| 1371-MOBL-2018  | 1371-MOBL-2019 | 1371-MOBL-2020 |
| 1371-MOBL-2021  | 1371-MOBL-2022 | 1371-MOBL-2023 |
| 1371-RECN-1001  | 1371-RECN-2001 |                |

#### **REFERENCES:**

- 1. FM 5-101-5-1 Operational Terrain and Symbols
- 2. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 3. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 4. MCRP 3-17.2D Explosive Hazard Operations
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 3-13.2 MINE WARFARE
- 9. MCWP 3-17 Engineering Operations
- 10. MCWP 3-17.3 MAGTF Breaching Operations
- 11. MCWP 3-17.4 Engineer Reconnaissance

- 12. MCWP 3-17.8 Combined Arms Mobility Operations
- 13. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 14. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

# SUPPORT REQUIREMENTS:

### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces

**EQUIPMENT:** Combat engineer equipment

### MISCELLANEOUS:

**ADMINISTRATIVE INSTRUCTIONS:** Type/quantities of ammunition, explosives and pyrotechnics are documented with the 4000 Level Events Chained to this event.

ESB-MOBL-5011: Construct tactical landing zones

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Conduct construction of tactical landing zones; includes but is not limited to site selection, construction, repair, and maintenance of existing or expeditionary airfields, landing zones, and other facilities for takeoff and landing of fixed and rotary wing aircraft in support of MAGTF operations.

**CONDITION:** Given a mission, commander's intent, available resources, and references.

**STANDARD:** To create, repair, and maintain tactical landing zones that meet or exceed landing zone requirements listed in the design specifications in accordance with the size, type, number of aircraft and concept of operations.

# **EVENT COMPONENTS:**

- 1. Task organize.
- 2. Conduct engineer reconnaissance.
- 3. Conduct survey.
- 4. Estimate engineer equipment requirements.
- 5. Coordinate necessary support.
- 6. Finalize construction plan.
- 7. Issue the order.
- 8. Construct/repair airfield, landing zone, or other facilities as required.
- 9. Maintain and improve airfield, landing zone, or other facilities as required.
- 10. Submit required reports.

# CHAINED EVENTS:

ESB-HEOP-3003 ESB-HEOP-4001 ESB-HORZ-4001 ESB-MOBL-4007 ESB-MOBL-4008 ESB-MOBL-4009

| RELATED EVENTS: |                |                |
|-----------------|----------------|----------------|
| 1302-EOPS-1009  | 1302-HORZ-1001 | 1302-MOBL-1016 |
| 1302-RECN-1001  | 1310-HEOP-2001 | 1310-HORZ-2001 |
| 1310-HORZ-2002  | 1310-HORZ-2003 | 1310-MANT-2002 |
| 1345-HORZ-2001  | 1349-HEOP-2001 | 1349-HORZ-2002 |
| 1349-HORZ-2003  | 1349-MANT-2002 | 1371-EOPS-2007 |
| 1371-EOPS-2011  | 1371-MOBL-2001 | 1371-RECN-1001 |
| 1371-RECN-2001  |                |                |

#### REFERENCES:

- 1. MCRP 3-17.2D Explosive Hazard Operations
- 2. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 3. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data

ESB-RECN-4001 ESB-RECN-5001

- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCRP 4-11.3E Multi-service Helicopter Sling Load: Vols I, II and III
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.8 Combined Arms Mobility Operations

### SUPPORT REQUIREMENTS:

### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces
Facility Code 17918 Road/Airfield Construction Training Site

**EQUIPMENT:** Engineer Earthmoving equipment, Material Handling equipment, Utilities equipment

ESB-MOBL-5012: Conduct airfield damage repair

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: These repairs may be required due to enemy or friendly action/damage, lack of maintenance, poor construction techniques (for existing surfaces), or environmental damage. May be part of Airfield Damage Repair (ADR) as part of Base Recovery after an Attack (BRAAT).

<u>CONDITION</u>: Given a tactical situation, an operations order, commander's intent, an airfield/landing zone requiring repair, task organized personnel and equipment, and references.

**STANDARD:** To restore the airfield/landing zone operating surfaces to minimum operational capability within the design criteria and the commander's intent.

- 1. Plan airfield damage repair.
- 2. Coordinate airfield damage repair.
- 3. Conduct engineer reconnaissance/damage assessment of airfield operating surfaces and critical facilities.
- 4. Determine minimum operating strip.
- 5. Conduct Explosive Ordnance Disposal (EOD) operations, as required.
- 6. Conduct crater repair, as required.
- 7. Conduct spall repair, as required.
- 8. Conduct foreign object debris clearance, as required.
- 9. Repair critical facilities/utilities, as required.
- 10. Submit required reports.

### CHAINED EVENTS:

| ESB-HEOP-3003   | ESB-HEOP-4001  | ESB-HORZ-4001  |
|-----------------|----------------|----------------|
| ESB-MOBL-4007   | ESB-MOBL-4008  | ESB-RECN-3006  |
| ESB-RECN-3007   | ESB-RECN-5001  | ESB-UTIL-4001  |
| ESB-UTIL-4002   | ESB-UTIL-4003  |                |
|                 |                |                |
| RELATED EVENTS: |                |                |
| 1302-EOPS-1004  | 1302-EOPS-1009 | 1302-RECN-1001 |
| 1371-EOPS-2002  | 1371-EOPS-2003 | 1371-EOPS-2004 |

### REFERENCES:

1371-RECN-2001

- 1. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 4. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 5. MCRP 3-17.7I Earthmoving Operations
- 6. MCRP 3-17.7L Explosives and Demolitions
- 7. MCRP 3-17A Engineering Field Data
- 8. MCRP 3-17B Engineer Forms and Reports
- 9. MCWP 3-17 Engineering Operations
- 10. MCWP 3-17.4 Engineer Reconnaissance
- 11. MCWP 3-17.8 Combined Arms Mobility Operations

### SUPPORT REQUIREMENTS:

**EQUIPMENT:** Equipment for Combat Engineers, MHE, EOD and other support personnel.

**ESB-PINF-5001:** Fight as provisional infantry

### SUPPORTED MCT(S):

MCT 1.1.2 MCT 1.4.1 MCT 1.4.2

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**<u>DESCRIPTION</u>**: Provide provisional infantry to participate in offensive operations such as attacks, raids, movement to contact, etc. Defensive

operations that include withdrawal, patrolling, check point ops, convoy ops, and employment of organic weapons. Additional responsibilities may include operations other than war (civil disturbance, TRAP, cordon and search) and MOUT (attack, defend, patrol, clear a building, vehicle check point).

CONDITION: Given a requirement, commander's intent and references.

**STANDARD:** To augment supported unit or conduct offensive and defensive operations to support mission requirements.

### **EVENT COMPONENTS:**

- 1. Conduct planning.
- 2. Task organize.
- 3. Issue orders.
- 4. Conduct inspections, rehearsals, and preparations.
- 5. Elements employ appropriate formations and tactics.
- 6. Conduct final preparations.
- 7. Use, coordinate, and observe fires.
- 8. Employ supporting arms as required.
- 9. Establish redundant communications.
- 10. Treat and evacuate casualties as required.
- 11. Process detainees as required.
- 12. Send and receive required reports.

CHAINED EVENTS: ESB-PINF-4001

### REFERENCES:

- 1. MCDP 1 Warfighting
- 2. MCDP 1-3 Tactics
- 3. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 4. MCRP 3-02G First Aid
- 5. MCWP 3-11.2 Marine Rifle Squad

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17730 Fire and Movement Range

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Type/quantities of ammunition, explosives and pyrotechnics are documented with the 4000-Level Events Chained to this event.

**ESB-RECN-5001:** Conduct engineer reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct engineer reconnaissance to collect data and obtain detailed information, within/along designated routes, zones, and/or areas that provides the MAGTF information on terrain and infrastructure (e.g., built-up areas, transportation networks, utilities and existing natural or

manmade obstacles/resources) necessary to support ongoing or future operations.

**CONDITION:** Given a mission, commander's intent, task organization of personnel and equipment, and references.

**STANDARD:** To gather all relevant engineer data and produce an engineer estimate in accordance with the concept of operations and commander's intent.

# **EVENT COMPONENTS:**

- 1. Review reconnaissance plan.
- 2. Analyze support requirements and location(s).
- 3. Conduct final coordination with supported unit (location, requirements, security, ground guides, etc.).
- 4. Conduct final coordination with supporting units (logistics, etc.).
- 5. Conduct zone reconnaissance, as required.
- 6. Conduct area reconnaissance, as required.
- 7. Conduct route reconnaissance, as required.
- 8. Conduct host-nation infrastructure assessment, as required.
- 9. Submit required reports.

# CHAINED EVENTS:

ESB-RECN-4001 ESB-RECN-4003 ESB-RECN-4004

ESB-RECN-4005

### RELATED EVENTS:

1302-RECN-1001 1371-RECN-1001 1371-RECN-2001

### **REFERENCES:**

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. 5-446 Military Non-Standard Fixed Bridge
- 3. MCRP 3-17A Engineering Field Data
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance
- 7. MCWP 3-17.8 Combined Arms Mobility Operations

**ESB-RECN-5002:** Conduct cache sweep operations

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Conduct cache sweep operations in order to detect, identify and secure materials (documents, discs, tapes, weapons, explosives, ammunition, chemical materials, bombs, electronic equipment, etc.). Appropriate safety and evidentiary preservation measures should be employed during cache sweeps.

<u>CONDITION</u>: Provided a mission, designated area/building to search for known, potential, or suspected materials that may be used against friendly forces or be of intelligence value.

STANDARD: To detect, identify, and secure materials discovered during the

course of the search in accordance with the commander's intent and concept of operations.

### **EVENT COMPONENTS:**

- 1. Analyze search area intelligence.
- 2. Tasks organize.
- 3. Coordinate with supported unit.
- 4. Coordinate with supporting units.
- 5. Detect cache within search area.
- 6. Identify items within cache(s).
- 7. Mark cache(s) as required.
- 8. Destroy captured enemy ammunition as required.
- 9. Verify cache destruction.
- 10. Coordinate explosive ordnance disposal activities as required.
- 11. Coordinate weapons intelligence team activities as required.
- 12. Coordinate with other specialist personnel as required.
- 13. Document/preserve evidence as required.
- 14. Submit required reports.

CHAINED EVENTS: ESB-RECN-4002

# RELATED EVENTS:

| 1302-DEMO-1004 | 1302-MOBL-1002 | 1302-MOBL-1003 |
|----------------|----------------|----------------|
| 1302-MOBL-1009 | 1371-MOBL-1002 | 1371-MOBL-1003 |
| 1371-MOBL-2018 | 1371-MOBL-2020 | 1371-MOBL-2021 |
| 1371-MOBL-2022 |                |                |

#### REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.4 Engineer Reconnaissance

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

**EQUIPMENT:** Combat engineer tools and kits.

<u>UNITS/PERSONNEL</u>: Explosive ordnance disposal personnel, Weapons Intelligence Team, Corpsman.

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Type/quantities of ammunition, explosives and pyrotechnics are documented with the 4000 Level Events Chained to this event.

ESB-SURV-5001: Construct survivability positions

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Construct positions designed to reduce the vulnerability of personnel, equipment, weapons, and supplies to enemy fire and as a means to enhance force protection. Positions may include fighting and protective positions.

**CONDITION:** Provided a mission, commander's intent, reconnaissance reports, survivability plan, a task organization of personnel and equipment, and references.

**STANDARD:** That meets the mission requirements in accordance with the concept of operations and commander's intent.

# **EVENT COMPONENTS:**

- 1. Plan survivability construction.
- 2. Analyze engagement areas, battle positions, and weapons location.
- 3. Conduct engineer reconnaissance and survey.
- 4. Coordinate with supported unit for specific position placement and requirements.
- 5. Coordinate resources for project.
- 6. Conduct site preparation.
- 7. Harden existing structure(s), as required.
- 8. Emplace pre-fabricated barriers, as required.
- 9. Provide SME input to AT/FP plan, as required.
- 10. Construct field fortification, as required.
- 11. Construct Vehicle Control Point (VCP), as required.
- 12. Construct Entry Access Point (EAP), as required.
- 13. Construct earth filled barrier/structure, as required.
- 14. Construct individual fighting positions, as required.
- 15. Construct vehicle fighting positions, as required.
- 16. Construct vehicle survivability positions/revetments, as required.
- 17. Construct crew-served weapon positions, as required.
- 18. Construct overhead cover, as required.
- 19. Construct shelter/bunker, as required.
- 20. Construct berms, as required.
- 21. Conduct earth moving operations, as required.
- 22. Construct triggering screen, as required.
- 23. Construct trench, as required.
- 24. Provide electrical power, as required.
- 25. Submit required reports.

#### REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17.7K Theater of Operations Electrical Systems
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.4 Engineer Reconnaissance
- 9. MCWP 3-17.6 Survivability

- 10. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 11. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 12. MCWP 3-35.5 Jungle Operations
- 13. MCWP 3-41.1 Rear Area Operations
- 14. MCWP 4-11 Tactical-Level Logistics

# SUPPORT REQUIREMENTS:

**EQUIPMENT:** Combat engineer equipment, Engineer earthmoving equipment, Material Handling Equipment, Utilities equipment.

MATERIAL: Map, Compass, Protractor, Overlay sheets, Reconnaissance
reports.

### MISCELLANEOUS:

# ADMINISTRATIVE INSTRUCTIONS: ORM

ESB-SURV-5002: Harden existing structure

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: To harden positions in order to reduce the vulnerability of personnel, equipment, weapons, and supplies to enemy fire and as a means to enhance force protection.

**CONDITION:** Provided a mission, in an urban environment, commander's intent, reconnaissance reports, and survivability plan, a task organization of personnel and equipment, and references.

<u>STANDARD</u>: To harden an existing structure that meets the mission requirements and supports the concept of operations in accordance with the commander's intent.

- 1. Plan structure hardening.
- 2. Conduct engineer reconnaissance and survey.
- 3. Analyze reconnaissance reports.
- 4. Coordinate with supported unit for specific position requirements.
- 5. Coordinate resources for project.
- 6. Conduct site preparation.
- 7. Construct perimeter security, as required.
- 8. Shore walls/floors/roofs, as required.
- 9. Remove/reinforce windows, as required.
- 10. Compartmentalize interior of structure, as required.
- 11. Emplace prefabricated barriers, as required.
- 12. Construct earth filled barrier/structure, as required.
- 13. Conduct earthmoving operations, as required.
- 14. Construct overhead cover, as required.
- 15. Construct shelter/bunker, as required.
- 16. Construct triggering screen, as required.

- 17. Wire position for electricity, as required.
- 18. Submit required reports.

# CHAINED EVENTS:

| ESB-HEOP-3003 | ESB-HEOP-4001 | ESB-RECN-4001 |
|---------------|---------------|---------------|
| ESB-RECN-5001 | ESB-SURV-3002 | ESB-SURV-3005 |
| ESB-SURV-3007 | ESB-SURV-4001 | ESB-SURV-4002 |
| ESB-SURV-4005 | ESB-UTIL-4001 | ESB-VERT-4001 |
| ESB-VERT-4002 | ESB-VERT-4003 | ESB-VERT-4004 |
| ESB-VERT-4005 | ESB-VERT-4006 | ESB-VERT-4007 |

#### REFERENCES:

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. MCRP 3-17.7K Theater of Operations Electrical Systems
- 3. MCRP 3-17A Engineering Field Data
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-17.7 General Engineering
- 8. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 9. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

### SUPPORT REQUIREMENTS:

**EQUIPMENT:** Engineer earthmoving equipment, Combat engineer tools and kits, Utilities equipment

ESB-SURV-5003: Construct field fortifications

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** To build field fortifications that reduce the vulnerability of personnel, equipment, weapons, and supplies to enemy fire, increase effectiveness of friendly weapons, and as a means to enhance force protection.

**CONDITION:** Provided a mission, commander's intent, reconnaissance reports, task organized personnel and equipment, and references.

**STANDARD:** That meets the mission requirements and supports the concept of operations in accordance with the commander's intent.

- 1. Plan survivability construction.
- 2. Analyze engagement areas, battle positions, and weapons location.
- 3. Conduct engineer reconnaissance and survey.
- 4. Coordinate with supported unit for specific position placement and requirements.
- 5. Construct survivability positions, as required.
- 6. Construct obstacles, as required.
- 7. Conduct vertical construction, as required.

- 8. Conduct earthmoving operations, as required.
- 9. Submit required reports.

### CHAINED EVENTS:

| ESB-CMOB-4001 | ESB-CMOB-4002 | ESB-HEOP-3003 |
|---------------|---------------|---------------|
| ESB-RECN-4001 | ESB-RECN-5001 | ESB-SURV-4002 |
| ESB-SURV-4003 | ESB-SURV-4004 | ESB-SURV-4005 |
| ESB-VERT-4001 | ESB-VERT-4002 | ESB-VERT-4003 |
| ESB-VERT-4004 | ESB-VERT-4005 | ESB-VERT-4006 |
| ESB-VERT-4007 |               |               |

#### REFERENCES:

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17.7D Concrete and Masonry
- 5. MCRP 3-17.7I Earthmoving Operations
- 6. MCRP 3-17A Engineering Field Data
- 7. MCWP 3-17.4 Engineer Reconnaissance
- 8. MCWP 3-17.6 Survivability
- 9. MCWP 3-17.7 General Engineering
- 10. MCWP 3-17.8 Combined Arms Mobility Operations
- 11. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 12. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

### SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer Earthmoving equipment, Combat engineer tools and kits

ESB-UTIL-5001: Provide utilities support

# SUPPORTED MCT(S):

MCT 4.4.3 MCT 4.4.4

**EVALUATION-CODED:** YES **SUSTAINMENT INTERVAL:** 6 months

<u>DESCRIPTION</u>: Provide tactical electrical supply and distribution; heating, ventilation, air conditioning and refrigeration service; and maintenance capabilities for specified utilities equipment in accordance with the unit's mission statement.

**CONDITION:** Given a mission, support plan, equipment availability, personnel, equipment, and references.

**STANDARD:** To provide support IAW with the concept of operations and in accordance with commander's intent.

- 1. Coordinate supported unit requirements.
- 2. Establish utilities plan.
- Establish utilities site(s).
- 4. Provide tactical electrical support, as required.
- 5. Provide non-tactical utilities support, as required.

- 6. Provide water production/storage/distribution equipment.
- 7. Maintain utilities equipment.
- 8. Recover utilities equipment, as required.
- 9. Submit required reports.

| CHAINED EVENTS: |                |                |
|-----------------|----------------|----------------|
| ESB-HEOP-4001   | ESB-MANT-4001  | ESB-UTIL-4001  |
| ESB-UTIL-4002   | ESB-UTIL-4003  |                |
|                 |                |                |
| RELATED EVENTS: |                |                |
| 1120-ADMN-2001  | 1120-ADMN-2002 | 1120-ADMN-2003 |
| 1120-ADMN-2004  | 1120-ADMN-2005 | 1120-ADMN-2006 |
| 1120-ADMN-2007  | 1120-ADMN-2012 | 1120-ADMN-2021 |
| 1120-ADMN-2022  | 1120-ADMN-2031 | 1120-ADMN-2051 |
| 1120-ADMN-2052  | 1120-ADMN-2061 | 1120-ADMN-2065 |
| 1120-ADMN-2071  | 1120-ADMN-2072 | 1120-ADMN-2073 |
| 1120-ADMN-2074  | 1120-ADMN-2075 | 1120-ADMN-2081 |
| 1120-ADMN-2091  | 1120-ADMN-2092 | 1120-XENG-2501 |
| 1120-XENG-2502  | 1120-XENG-2521 | 1120-XENG-2522 |
| 1120-XENG-2541  | 1120-XENG-2553 | 1120-XENG-2555 |
| 1120-XENG-2558  | 1120-XENG-2561 | 1120-XENG-2581 |
| 1120-XENG-2621  | 1120-XENG-2622 | 1120-XENG-2641 |
| 1120-XENG-2653  | 1120-XENG-2655 | 1120-XENG-2658 |
| 1120-XENG-2721  | 1120-XENG-2741 | 1120-XENG-2752 |
| 1120-XENG-2753  | 1120-XENG-2755 | 1120-XENG-2758 |
| 1120-XENG-2821  | 1120-XENG-2841 | 1120-XENG-2853 |
| 1120-XENG-2855  | 1120-XENG-2858 | 1120-XENG-2965 |
| 1120-XENG-2966  | 1120-XENG-2988 | 1120-XENG-2989 |

#### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. NAVMED P-5010-5 Manual of Preventive Medicine, Chapter 5, Water Supply Ashore (Nov 90)
- 3. 29 CFR 1910.147 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 147 Control of Hazardous Energy (Lockout/Tagout)
- 4. 29 CFR 1910.269 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 269 Electrical Power Generation, Transmission, and Distribution
- 5. 29 CFR 1910.301-399 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Subpart S, (Standard Numbers 301-399) Electrical
- 6. 40 CFR 82 Chapter 40, Code of Federal Regulations, Part Number 82 (Protection of Stratospheric Ozone)
- 7. 42 USC 85 VI 7671 Title 42, United States Code, Chapter 85, Subchapter VI, Section 7671 (Ozone Protection)
- 8. FM 10-52 Water Supply in Theaters of Operation
- 9. FM 10-52-1 Water Supply Point Equipment and Operations
- 10. FM 5-424 Theater of Operations Electrical Systems
- 11. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 12. MCO 5090.1 Chlorofluorocarbons (CFC's) and Halons
- 13. MCRP 3-17B Engineer Forms and Reports
- 14. MCRP 4-11.1D Field Hygiene and Sanitation
- 15. MCRP 4-11B Environmental Considerations

- 16. MCWP 3-17 Engineering Operations
- 17. MCWP 3-17.4 Engineer Reconnaissance
- 18. MCWP 4-11 Tactical-Level Logistics
- 19. MCWP 4-11.4 Maintenance Operations
- 20. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 21. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 22. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 23. TB MED 577 Occupational and Environmental Health Sanitary Control and Surveillance of Field Water Supplies
- 24. TB MED 593 Guidelines for Field Waste Management
- 25. TC 3-34.489 The Soldier and the Environment
- 26. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 27. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

**EQUIPMENT:** Utilities equipment, Engineer Material Handling Equipment, Motor Transport equipment, HAZMAT handling equipment.

**ESB-VERT-5001:** Conduct limited vertical construction

# SUPPORTED MCT(S):

MCT 1.4.1 MCT 4.4.2 MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: To conduct vertical construction is to build or provide improvements to existing structures or construction of base camps, command posts, and maintenance facilities for use by the MAGTF.

<u>CONDITION</u>: Given a mission, commander's intent, tactical situation, task organized equipment and personnel, design specifications, construction materials and appropriate references.

**STANDARD:** To build and/or improve facilities that meet the minimum requirements listed in the design specifications in accordance with the commander's intent and concept of operations.

- 1. Plan vertical construction.
- 2. Conduct engineer reconnaissance.
- 3. Conduct survey, as required.
- 4. Coordinate resources for project.
- 5. Conduct site preparation.
- 6. Repair facility, as required.
- 7. Erect prefabricated structure, as required.
- 8. Construct wood frame structure, as required.

- 9. Construct timber structure, as required.
- 10. Construct expedient drainage structure, as required.
- 11. Wire structure for electricity, as required.
- 12. Plumb structure, as required.
- 13. Submit required reports.

# **PREREQUISITE EVENTS:** ESB-RECN-5001

### CHAINED EVENTS:

| ESB-RECN-4001 | ESB-UTIL-4001                  |
|---------------|--------------------------------|
| ESB-UTIL-4003 | ESB-VERT-4001                  |
| ESB-VERT-4003 | ESB-VERT-4004                  |
| ESB-VERT-4006 | ESB-VERT-4007                  |
|               | ESB-UTIL-4003<br>ESB-VERT-4003 |

# RELATED EVENTS:

| ************************************** |                |                |
|----------------------------------------|----------------|----------------|
| 1302-HORZ-1001                         | 1302-RECN-1001 | 1302-VERT-1001 |
| 1371-EOPS-2005                         | 1371-EOPS-2006 | 1371-EOPS-2007 |
| 1371-EOPS-2010                         | 1371-EOPS-2011 | 1371-HORZ-2002 |
| 1371-HORZ-2003                         | 1371-HORZ-2004 | 1371-HORZ-2005 |
| 1371-RECN-1001                         | 1371-VERT-1001 | 1371-VERT-1002 |
| 1371-VERT-1003                         | 1371-VERT-1004 | 1371-VERT-1005 |
| 1371-VERT-2001                         | 1371-VERT-2002 |                |

### **REFERENCES:**

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. JP 3-15 Barriers, Obstacles, and Mine Warfare for Joint Operations
- 3. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 4. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 5. MCRP 3-17.7C Carpentry
- 6. MCRP 3-17.7D Concrete and Masonry
- 7. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 8. MCRP 3-17.7F Project Management
- 9. MCRP 3-17.7I Earthmoving Operations
- 10. MCRP 3-17.7K Theater of Operations Electrical Systems
- 11. MCRP 3-17.7M Construction Estimating
- 12. MCRP 3-17.7N Base Camps
- 13. MCRP 3-17A Engineering Field Data
- 14. MCRP 4-11.1D Field Hygiene and Sanitation
- 15. MCWP 3-17 Engineering Operations
- 16. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 17. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 18. MCWP 4-11 Tactical-Level Logistics
- 19. TM 5-232 Elements of Construction Surveying

# SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer earthmoving equipment, Combat engineer tools and

equipment; kits, Material Handling Equipment.

MATERIAL: Class III/IV

UNITS/PERSONNEL: MT, UT, & HE operators, Engineers, Surveyors

### 6006. 4000-LEVEL EVENTS

ESB-CMOB-4001: Create an explosive obstacle

SUPPORTED MCT(S): MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**<u>DESCRIPTION</u>**: Create an explosive obstacle to turn, block, fix, or disrupt enemy movement or maneuver of personnel or equipment.

**CONDITION:** Given a mission, commander's intent, location to emplace the obstacle, task organized personnel and equipment, and resources (Class IV and V supplies, etc.).

**STANDARD:** That is part of an obstacle group, intended to turn, block, fix, or disrupts enemy personnel or equipment in accordance with the concept of operations and commander's intent.

### **EVENT COMPONENTS:**

- 1. Analyze obstacle plan.
- 2. Analyze engagement areas, battle positions, and weapons location.
- 3. Determine actual work sequence.
- 4. Finalize coordination with supported unit for specific obstacle placement and observation.
- 5. Coordinate overwatch/security for obstacle construction.
- 6. Move to obstacle site.
- 7. Emplace expedient anti-personnel devices as required.
- 8. Account for all personnel and equipment prior to returning to friendly
- 9. Coordinate lane closure plan with supported unit as required.
- 10. Submit required reports.

### CHAINED EVENTS:

| ESB-CMOB-3001<br>ESB-HEOP-3003 | ESB-CMOB-3003  | ESB-HEOP-3002  |
|--------------------------------|----------------|----------------|
| RELATED EVENTS:                |                |                |
| 1302-CMOB-1001                 | 1302-CMOB-1002 | 1310-ADMN-2002 |
| 1310-ADMN-2006                 | 1310-ADMN-2009 | 1310-ADMN-2010 |
| 1310-HEOP-2001                 | 1310-MANT-2002 | 1345-ADMN-1002 |
| 1345-ADMN-2002                 | 1345-HEOP-1003 | 1345-HEOP-1004 |
| 1345-HEOP-1005                 | 1345-HEOP-1006 | 1345-HEOP-2009 |
| 1345-MANT-1001                 | 1349-ADMN-2002 | 1349-ADMN-2006 |
| 1349-ADMN-2009                 | 1349-ADMN-2010 | 1349-HEOP-2001 |
| 1349-MANT-2002                 | 1371-CMOB-1003 | 1371-CMOB-2001 |
| 1371-CMOB-2003                 | 1371-DEMO-1002 |                |
|                                |                |                |

### **REFERENCES:**

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. UNIT SOP Unit's Standing Operating Procedures
- 3. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 4. MCRP 3-17.2D Explosive Hazard Operations
- 5. MCRP 3-17.7L Explosives and Demolitions

- 6. MCRP 3-17A Engineering Field Data
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.4 Engineer Reconnaissance
- 9. MCWP 3-17.8 Combined Arms Mobility Operations
- 10. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

### SUPPORT REQUIREMENTS:

# ORDNANCE:

| DODI | .C                                   | Quantity                   |
|------|--------------------------------------|----------------------------|
| J007 | Mine, Antipersonnel M18A 1 with Non- | 2 mines per squad          |
| L495 | Flare, Surface Trip M49 Series       | 4 flares per squad         |
| L598 | Simulator, Explosive Booby Trap Flas | 4 Simulator per squad      |
| M032 | Charge, Demolition Block TNT 1-Pound | 10 charges per squad       |
| M039 | Charge, Demolition Cratering 40-Poun | 1 charges per squad        |
| M130 | Cap, Blasting Electric M6            | 10 blasting caps per squad |
| M131 | . Cap, Blasting Non-Electric M7      | 20 blasting caps per squad |
| M420 | Charge, Demolition Shaped M2 Series  | 1 charges per squad        |
| M421 | Charge, Demolition Shaped M3 Series  | 1 charges per squad        |
| M456 | Cord, Detonating PETN Type I Class E | 1500 FT per squad          |
| M591 | Dynamite, Military M1                | 10 charges per squad       |
| M670 | Fuse, Blasting Time M700             | 500 FT per squad           |
| M757 | Charge, Assembly Demolition M183 Com | 2 charges per squad        |
| ML03 | Firing Device, Demolition Multi-Purp | 2 primers per squad        |
| MN08 | Igniter, Time Blasting Fuse with Sho | 35 igniters per squad      |

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# RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17730 Fire and Movement Range Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer equipment, Material Handling Equipment.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event.

ESB-CMOB-4002: Create non-explosive obstacles/barriers

**SUPPORTED MCT(S):** MCT 1.4.2

**EVALUATION-CODED:** YES **SUSTAINMENT INTERVAL:** 6 months

**<u>DESCRIPTION</u>**: Create non-explosive obstacles/barriers to turn, block, fix, or disrupt enemy movement or maneuver of personnel or equipment.

**CONDITION:** Given a mission, commander's intent, location to emplace the obstacle, task organized personnel and equipment, and resources (Class IV,

natural terrain, battlefield materials, etc.).

STANDARD: That is part of an obstacle group that will turn, block, fix, or disrupts enemy personnel or equipment in accordance with the concept of operations and commander's intent.

# **EVENT COMPONENTS:**

- 1. Analyze obstacle plan.
- 2. Analyze engagement areas, battle positions, and weapons location.
- 3. Determine actual work sequence.
- 4. Finalize coordination with supported unit for specific obstacle placement and observation.
- 5. Coordinate overwatch/security for obstacle construction.
- 6. Move to obstacle site.
- 7. Tie obstacles into natural/existing obstacles, as required.
- 8. Emplace obstacles (barriers, hedgehogs, etc.), as required.
- 9. Emplace wire obstacles, as required.
- 10. Emplace field expedient obstacles (logs, abatis, rubble, etc.), as required.
- 11. Create craters, as required.
- 12. Emplace deception obstacles, as required.
- 13. Create tank ditches, as required.
- 14. Account for all personnel and equipment prior to returning to friendly lines.

ESB-CMOB-3002 ESB-CMOB-3003

- 15. Coordinate lane closure plan with supported unit, as required.
- 16. Submit required reports.

# CHAINED EVENTS: ESB-CMOB-3001

ESB-HEOP-3003

| RELATED EVENTS: |                |                |
|-----------------|----------------|----------------|
| 1302-CMOB-1001  | 1302-CMOB-1002 | 1310-HEOP-2001 |
| 1310-HORZ-2001  | 1310-HORZ-2002 | 1310-MANT-2002 |
| 1316-ADMN-1001  | 1316-ADMN-1002 | 1316-ADMN-2001 |
| 1316-ADMN-2002  | 1316-XENG-1001 | 1316-XENG-1006 |
| 1316-XENG-2002  | 1345-HEOP-1003 | 1345-HEOP-1004 |
| 1345-HEOP-1006  | 1345-HEOP-2007 | 1345-HEOP-2009 |
| 1345-HORZ-2001  | 1349-HEOP-2001 | 1349-HORZ-2001 |
| 1349-HORZ-2002  | 1349-MANT-2002 | 1371-CMOB-1001 |

1371-CMOB-2003

#### REFERENCES:

1371-CMOB-2001

- 1. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 2. MCRP 3-17A Engineering Field Data
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.4 Engineer Reconnaissance
- 5. MCWP 3-17.5 Combined Arms Countermobility Operations
- 6. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 7. Unit SOP Unit's Standing Operating Procedures

# SUPPORT REQUIREMENTS:

# ORDNANCE:

| DODIC L495 Flare, Surface Trip M49 Series M032 Charge, Demolition Block TNT 1-Pound M039 Charge, Demolition Cratering 40-Poun M130 Cap, Blasting Electric M6 | Quantity 6 flares per squad 12 charges per squad 12 charges per squad 12 blasting caps per squad |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| M131 Cap, Blasting Non-Electric M7                                                                                                                           | 12 blasting caps per squad 12 blasting caps per squad                                            |
| M327 Coupling Base, Firing Device with Pr                                                                                                                    | 12 primers per squad                                                                             |
| M421 Charge, Demolition Shaped M3 Series                                                                                                                     | 8 charges per squad                                                                              |
| M456 Cord, Detonating PETN Type I Class E                                                                                                                    | 1000 FT per squad                                                                                |
| M591 Dynamite, Military M1                                                                                                                                   | 10 charges per squad                                                                             |
| M670 Fuse, Blasting Time M700                                                                                                                                | 500 FT per squad                                                                                 |
| M757 Charge, Assembly Demolition M183 Com                                                                                                                    | 6 cases per squad                                                                                |
| ML03 Firing Device, Demolition Multi-Purp                                                                                                                    | 12 detonators per squad                                                                          |
| MN08 Igniter, Time Blasting Fuse with Sho                                                                                                                    | 12 igniters per squad                                                                            |
| MN14 Firing Device, Dual Mode MK54                                                                                                                           | 12 detonators per squad                                                                          |
| MN52 MK154 Mod 0                                                                                                                                             | 8 detonators per squad                                                                           |

# RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17730 Fire and Movement Range

Facility Code 17830 Light Demolition Range

Facility Code 17931 Medium/Heavy Equipment Training Area

**EQUIPMENT:** Combat engineer equipment, Material Handling Equipment, Engineer earthmoving equipment.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

ESB-CMOB-4003: Employ demolitions in support of countermobility operations

**SUPPORTED MCT(S):** MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Employ demolitions in support of countermobility operations to create mobility obstacles (explosively) such as craters, ditches or to destroy structures (bridges, tunnels, etc.). This could include field expedient explosive obstacles (improvised anti-vehicular/anti-personnel explosive devices) to destroy enemy personnel and equipment.

**CONDITION:** Provided a mission order, task organized personnel and equipment, Class V, personal protective equipment (PPE), and references.

**STANDARD:** To construct countermobility obstacles at designated areas/routes to fix, delay, disrupt enemy vehicles and personnel per commander's intent, concept of operations, and mission requirement.

# **EVENT COMPONENTS:**

- 1. Review the mission.
- 2. Coordinate with supporting unit(s).
- 3. Conduct final coordination with supported unit (location, requirements, security, etc.) as required.
- 4. Prepare equipment and materials for operation.
- 5. Move to obstacle sites(s).
- 6. Setup security.
- 7. Prepare charges.
- 8. Place charges.
- 9. Create obstacle(s), as required.
- 10. Inspect obstacle(s), as required.
- 11. Improve obstacle site with support equipment, as required.
- 12. Reconstitute the force.
- 13. Submit required reports.

# CHAINED EVENTS:

| ESB-CMOB-3001   | ESB-CMOB-3003  | ESB-HEOP-3002  |
|-----------------|----------------|----------------|
| RELATED EVENTS: |                |                |
| 1302-CMOB-1001  | 1302-CMOB-1002 | 1302-CMOB-1003 |
| 1310-ADMN-2002  | 1310-ADMN-2006 | 1310-ADMN-2009 |
| 1310-ADMN-2010  | 1310-HEOP-2001 | 1310-MANT-2002 |
| 1345-ADMN-1002  | 1345-ADMN-2002 | 1345-HEOP-1003 |
| 1345-HEOP-1004  | 1345-HEOP-1005 | 1345-HEOP-1006 |
| 1345-HEOP-2009  | 1345-MANT-1001 | 1349-ADMN-2002 |
| 1349-ADMN-2006  | 1349-ADMN-2009 | 1349-ADMN-2010 |
| 1349-HEOP-2001  | 1349-MANT-2002 | 1371-CMOB-1003 |
| 1371-CMOB-2001  | 1371-CMOB-2003 | 1371-DEMO-1002 |
|                 |                |                |

### **REFERENCES:**

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations

# SUPPORT REQUIREMENTS:

# **ORDNANCE:**

| Quantity                  |
|---------------------------|
| 20 charges per squad      |
| 10 charges per squad      |
| 10 charges per squad      |
| 6 blasting caps per squad |
| 6 blasting caps per squad |
| 5 charges per squad       |
| 10 charges per squad      |
| 1000 FT per squad         |
| 10 charges per squad      |
| 500 FT per squad          |
| 6 igniters per squad      |
| 6 igniters per squad      |
|                           |

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

**EQUIPMENT:** Engineer Material Handling equipment, Combat engineer

Demolitions kit

UNITS/PERSONNEL: Range Safety Officer, Corpsman

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

ESB-FUEL-4001: Construct bulk fuel site

SUPPORTED MCT(S): MCT 4.4.3

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**<u>DESCRIPTION</u>**: Construct and set up fuel storage and distribution systems to accommodate multiple fuel requirements in support of the respective MEF.

**CONDITION:** Provided a fuel distribution plan with a system layout, tasked organized personnel/equipment and references.

**STANDARD:** To ensure set up for bulk fuel operations per the concept of operations and commander's intent.

### **EVENT COMPONENTS:**

- 1. Review mission.
- 2. Review plan for storage and distribution of fuel.
- 3. Task-organize personnel and equipment, as required.
- 4. Coordinate security requirements with supported unit as required.
- 5. Clear site, as required.
- 6. Construct berms, as required.
- 7. Layout fuel storage and distribution point(s), as required.
- 8. Connect components, as required.
- 9. Construct fuel distribution point(s), as required.
- 10. Place safety equipment, as required.
- 11. Submit required reports.

### CHAINED EVENTS:

| ESB-FUEL-3001 | ESB-FUEL-3002 | ESB-HEOP-3002 |
|---------------|---------------|---------------|
| ESB-HEOP-3003 |               |               |

# RELATED EVENTS:

| 1361-SRVY-1001 | 1361-SRVY-1002 | 1361-SRVY-1006 |
|----------------|----------------|----------------|
| 1361-SRVY-1008 | 1361-SRVY-1009 | 1361-SRVY-1010 |
| 1361-SRVY-1011 | 1361-SRVY-1012 | 1361-SRVY-2001 |
| 1361-SRVY-2002 | 1361-XENG-2002 |                |

# REFERENCES:

- 1. MCRP 4-11B Environmental Considerations
- 2. MCWP 3-17.4 Engineer Reconnaissance
- 3. MCWP 4-11 Tactical-Level Logistics
- 4. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 5. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

# SUPPORT REQUIREMENTS:

### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17413 Field Training Area Facility Code 17933 POL Training Area

**EQUIPMENT:** Engineer earthmoving equipment, Material Handling Equipment, Utilities equipment, Bulk fuel equipment, Motor Transport equipment, Engineer lifting equipment, Tactical communications equipment.

MATERIAL: Class III/IV

ESB-FUEL-4002: Conduct tactical bulk fuel operations

SUPPORTED MCT(S): MCT 4.4.3

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct tactical bulk fuel operations in support of respective MEF.

**CONDITION:** Given a mission order, location of operation, estimated fuel requirements, personnel and required equipment.

**STANDARD:** To support mission requirements per concept of operations and commander's intent.

# **EVENT COMPONENTS:**

- 1. Review mission.
- 2. Determine type of set up for storage and distribution of fuel per mission requirements.
- 3. Task-organize personnel and equipment needed.
- 4. Coordinate security requirements with supported unit, as required.
- 5. Coordinate receipt of supplies.
- 6. Determine fuel systems communications plan.
- 7. Develop safety plan for storage and distribution.
- 8. Plan fuel distribution site for operation.
- 9. Establish a Fuel Laboratory Quality Surveillance and Control Program.
- 10. Submit required reports.

# CHAINED EVENTS:

ESB-FUEL-3001 ESB-FUEL-3002 ESB-HEOP-3002

ESB-HEOP-3003

# RELATED EVENTS:

1391-XENG-1001 1391-XENG-1002 1391-XENG-1003

| 1391-XENG-1004 | 1391-XENG-1005 | 1391-XENG-1006 |
|----------------|----------------|----------------|
| 1391-XENG-1007 | 1391-XENG-1008 | 1391-XENG-1009 |
| 1391-XENG-1011 | 1391-XENG-1012 | 1391-XENG-1013 |
| 1391-XENG-1014 | 1391-XENG-1015 | 1391-XENG-2001 |
| 1391-XENG-2002 | 1391-XENG-2003 | 1391-XENG-2004 |
| 1391-XENG-2005 | 1391-XENG-2006 |                |

#### REFERENCES:

- 1. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 2. MIL STD 3004 Quality Surveillance Handbook for Fuels, Lubricants and Related Products
- 3. TB 10-5430-253-13 Technical Bulletin for Collapsible Fabric Fuel tanks
- 4. TM 3835-OI/1 Marine Corps Tactical Fuel Systems

# SUPPORT REQUIREMENTS:

# RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17933 POL Training Area

**EQUIPMENT:** Material Handling Equipment, Bulk fuel equipment, Utilities equipment, Engineer earthmoving equipment, Motor Transport equipment, Engineer lifting equipment, Tactical communications equipment.

MATERIAL: Class III/IV

ESB-HEOP-4001: Conduct MHE operations

# SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2 MCT 4.4.1 MCT 4.4.3 MCT 4.4.4

**EVALUATION-CODED:** YES **SUSTAINMENT INTERVAL:** 6 months

**DESCRIPTION:** Provide Material Handling Equipment (MHE) support to enable handling of loads (equipment, supplies, materials, etc.) exceeding carrying capacity of personnel.

**CONDITION:** Given a mission, commander's intent, personnel and equipment, and references.

**STANDARD:** To provide support IAW unit SOPs or guidance to support the concept of operations in accordance with commander's intent.

- 1. Review tasking.
- 2. Coordinate with supported unit (location, requirements, security, ground guides, etc.).
- 3. Operate MHE, as required.
- 4. Load and unload materiel(s), as required.
- 5. Employ safety measures, as required.
- 6. Submit required reports.

| CHAINED  | EVENTS | : |
|----------|--------|---|
| ESB-HEOR | 2-3001 |   |

1349-HORZ-2002

| RELATED EVENTS: |                |                |
|-----------------|----------------|----------------|
| 1310-HEOP-2001  | 1310-HORZ-2001 | 1310-HORZ-2002 |
| 1310-HORZ-2003  | 1345-HEOP-2012 | 1345-HORZ-2001 |
| 1345-MANT-2001  | 1349-HEOP-2001 | 1349-HORZ-2001 |

1349-HORZ-2003

ESB-HEOP-3002 ESB-HEOP-3003

#### REFERENCES:

- 1. MCRP 3-17B Engineer Forms and Reports
- 2. MCWP 3-41.1 Rear Area Operations
- 3. MCWP 4-11 Tactical-Level Logistics
- 4. MCWP 4-11.4 Maintenance Operations

# SUPPORT REQUIREMENTS:

**EQUIPMENT:** Engineer Material Handling equipment, Engineer support equipment

ESB-HORZ-4001: Conduct horizontal construction

### SUPPORTED MCT(S):

| MCT | 1.4.1 | MCT 1.4.2 | MCT | 2.2.2 |
|-----|-------|-----------|-----|-------|
| MCT | 4.4.1 | MCT 4.4.3 | MCT | 6.1.4 |

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 3 months

<u>DESCRIPTION</u>: To conduct horizontal construction as required to shape the terrain to meet the operational requirements of the MAGTF and includes MSR construction and/or maintenance; expeditionary airfields; site preparation for bed down facilities; and ordnance storage facilities.

**CONDITION:** Given a mission, commander's intent, tactical situation, a map, task organized equipment and personnel, design specifications, construction materials and references.

**STANDARD:** To construct the assigned project to meet or exceed the requirements listed in the design specifications in accordance with the commander's intent and concept of operations.

- 1. Review horizontal construction plans.
- 2. Review engineer reconnaissance and survey.
- 3. Coordinate support for horizontal construction.
- 4. Operate/employ engineer equipment and kits.
- 5. Clear site for construction.
- 6. Conduct beachhead lane improvement, as required.
- 7. Construct base course for road(s), as required.
- 8. Emplace soil stabilization, as required.
- 9. Conduct ditching for roads, as required.
- 10. Emplace road surface, as required
- 11. Construct expedient HLZ, as required.

- 12. Emplace dust abatement material, as required.
- 13. Construct expedient HLZ, as required.
- 14. Construct drainage structures, as required.
- 15. Construct expeditionary airfield, as required.
- 16. Submit required reports.

#### PREREQUISITE EVENTS:

ESB-RECN-3001 ESB-RECN-4001

| CHAINED EVENTS: |                 |                 |
|-----------------|-----------------|-----------------|
| ESB-HEOP-3001   | ESB-HEOP-3002   | ESB-HEOP-3003   |
| ESB-HORZ-3001   | ESB-HORZ-4002   | ESB-MANT-3001   |
| ESB-MANT-3002   | ESB-MOBL-3004   | ESB-MOBL-4006   |
| ESB-MOBL-4009   | ESB-RECN-3001   | ESB-UTIL-3001   |
|                 |                 |                 |
| RELATED EVENTS: |                 |                 |
| 1302-EOPS-1001  | 1302-EOPS-1003  | 1302-EOPS-1007  |
| 1302-EOPS-1009  | 1302-HORZ-1001  | 1302-HORZ-1002  |
| 1302-HORZ-1003  | 1302-MOBL-1016  | 1345-ADMN-2001  |
| 1345-ADMN-2002  | 1345-HEOP-2004  | 1345-HEOP-2009  |
| 1345-HEOP-2012  | 1345-HORZ-2001  | 1345-MANT-2001  |
| 1345-MANT-2003  | 1345-MANT-2004  | 1361-DRAF-1001  |
| 1361-DRAF-1002  | 1361-SRVY-1001  | 1361-SRVY-1002  |
| 1361-SRVY-1003  | 1361-SRVY-1004  | 1361-SRVY-1005  |
| 1361-SRVY-1006  | 1361-SRVY-1008  | 1361-SRVY-1009  |
| 1361-SRVY-1010  | 1361-SRVY-1011  | 1361-SRVY-1012  |
| 1361-SRVY-2001  | 1361-SRVY-2002  | 1361-SRVY-2005  |
| 1361-XENG-2001  | 1371-EOPS-1001  | 1371-EOPS-1002  |
| 1371-EOPS-1003  | 1371-EOPS-1004  | 1371-EOPS-2006  |
| 1371-EOPS-2007  | 1371-EOPS-2008  | 1371-EOPS-2010  |
| 1371-EOPS-2011  | 1371-EOPS-2012  | 1371-HORZ-1001  |
| 1000 1000       | 1201 11000 1002 | 1201 11000 0001 |

1371-HORZ-1003

1371-HORZ-2003

1371-MANT-1001

# REFERENCES:

1371-HORZ-1002

1371-HORZ-2002

1371-HORZ-2005

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. JP 3-15 Barriers, Obstacles, and Mine Warfare for Joint Operations
- 3. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 4. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Road Design

1371-HORZ-2001

1371-HORZ-2004

1371-MOBL-2001

- 5. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Airfield and Heliport Design 6. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 7. MCRP 3-17.7F Project Management
- 8. MCRP 3-17.7G Military Soils Engineering
- 9. MCRP 3-17.7I Earthmoving Operations
- 10. MCRP 3-17.7L Explosives and Demolitions
- 11. MCRP 3-17.7M Construction Estimating
- 12. MCRP 3-17.7N Base Camps
- 13. MCRP 3-17A Engineering Field Data
- 14. MCRP 3-17B Engineer Forms and Reports
- 15. MCRP 4-11.1D Field Hygiene and Sanitation
- 16. MCWP 3-17 Engineering Operations

- 17. MCWP 3-17.4 Engineer Reconnaissance
- 18. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 19. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 20. MCWP 3-41.1 Rear Area Operations
- 21. MCWP 4-11 Tactical-Level Logistics
- 22. TM 5-232 Elements of Construction Surveying

#### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

**EQUIPMENT:** Engineer Earthmoving equipment, Material Handling equipment, Combat engineer equipment, Utilities equipment

ESB-HORZ-4002: Construct expedient drainage structure

# SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2 MCT 4.4.3

MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Construction of expedient drainage structures (ditching, culverts, etc.) are designed for temporary conduit for water runoff from existing or proposed base camps, roads, airfields and watersheds until a permanent structure(s) can be installed.

**CONDITION:** Given a mission, commander's intent, tactical situation, task organized equipment and personnel, design specifications, construction materials and appropriate references.

**STANDARD:** To meet the requirements listed in the design specifications in accordance with the commander's intent.

#### **EVENT COMPONENTS:**

- 1. Review construction plans and schematics.
- 2. Review engineer reconnaissance and survey.
- 3. Acquire resources needed for project.
- 4. Conduct site preparation, as required.
- 5. Operate/employ engineer equipment and kits.
- 6. Construct expedient ditch relief culverts.
- 7. Construct expedient log culverts.
- 8. Construct oil drum culvert.
- 9. Construct sandbag culvert.
- 10. Cover expedient culverts, as required.
- 11. Construct expedient head/wing walls, as required.
- 12. Submit required reports.

#### PREREQUISITE EVENTS:

ESB-RECN-3001 ESB-RECN-4001 ESB-RECN-5001

# CHAINED EVENTS:

| ESB-HEOP-3002   | ESB-HEOP-3003  | ESB-HORZ-3001  |
|-----------------|----------------|----------------|
| ESB-MOBL-3004   | ESB-RECN-3001  | ESB-UTIL-3001  |
|                 |                |                |
| RELATED EVENTS: |                |                |
| 1345-ADMN-2002  | 1345-HEOP-1003 | 1345-HEOP-1004 |
| 1345-HEOP-1005  | 1345-HEOP-1006 | 1345-HEOP-1007 |
| 1345-HEOP-2009  | 1345-MANT-1001 | 1361-DRAF-1001 |
| 1361-DRAF-1002  | 1361-SRVY-1011 | 1361-SRVY-2001 |
| 1371-EOPS-2006  | 1371-EOPS-2007 | 1371-EOPS-2008 |
| 1371-EOPS-2010  | 1371-EOPS-2011 | 1371-HORZ-2001 |
| 1371-HORZ-2002  | 1371-HORZ-2003 |                |

#### **REFERENCES:**

- 1. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 2. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 3. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 4. MCRP 3-17.7F Project Management
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports

#### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

**EQUIPMENT:** Engineer equipment, Combat engineer equipment, Utilities equipment

ESB-MANT-4001: Maintain engineer equipment

SUPPORTED MCT(S): MCT 4.2.2.4

**EVALUATION-CODED:** YES **SUSTAINMENT INTERVAL:** 6 months

**DESCRIPTION:** Manage and conduct required maintenance on organic engineer equipment at your unit's authorized maintenance levels.

**CONDITION:** With equipment, tools, repair parts, supplies, personnel and references.

**STANDARD:** To sustain equipment in an operational status at or above readiness requirements.

#### **EVENT COMPONENTS:**

- 1. Monitor equipment readiness.
- 2. Conduct reconciliation.
- 3. Assign tasks.
- 4. Maintain utilities equipment, as required.
- 5. Maintain material handling equipment, as required.
- 6. Maintain earthmoving equipment, as required.
- 7. Maintain bulk fuel equipment, as required.

- 8. Maintain other organic tactical engineer equipment, as required.
- 9. Manage maintenance programs.
- 10. Submit required reports.

| CHAINED | <b>EVENTS</b> | : |
|---------|---------------|---|
|---------|---------------|---|

| CIMILITED DIVILITE |                |                |
|--------------------|----------------|----------------|
| ESB-MANT-3001      | ESB-MANT-3002  | ESB-MANT-3003  |
| ESB-MANT-3004      | ESB-MANT-3005  | ESB-MANT-3006  |
| ESB-MANT-3007      |                |                |
|                    |                |                |
| RELATED EVENTS:    |                |                |
| 1169-ADMN-2006     | 1169-ADMN-2007 | 1169-ADMN-2012 |
| 1169-ADMN-2021     | 1169-ADMN-2022 | 1169-ADMN-2041 |
| 1169-ADMN-2051     | 1169-ADMN-2052 | 1169-ADMN-2061 |
| 1169-ADMN-2064     | 1169-ADMN-2071 | 1169-ADMN-2072 |
| 1169-ADMN-2073     | 1169-ADMN-2074 | 1169-ADMN-2075 |
| 1310-ADMN-2004     | 1310-ADMN-2009 | 1310-MANT-2001 |
| 1310-MANT-2002     | 1341-ADMN-1001 | 1341-ADMN-1002 |
| 1341-ADMN-2002     | 1341-ADMN-2003 | 1341-ADMN-2004 |
| 1341-MANT-1001     | 1341-MANT-1002 | 1341-MANT-2010 |
| 1349-ADMN-2002     | 1349-ADMN-2004 | 1349-ADMN-2009 |
| 1349-ADMN-2010     | 1349-MANT-2001 | 1349-MANT-2002 |
|                    |                |                |

#### **REFERENCES:**

- 1. Applicable Technical Manuals Publications
- 2. EMC Electric Motor Controls by American Technical Publishers, Inc.
- 3. Local Standard Operating Procedures (SOP)
- 4. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 5. DoDI 6055.1 DoD Safety and Occupational Health (SOH) Program
- 6. MCO 3500.27\_ Operational Risk Management (ORM)
- 7. MCO 4731.1\_ Oil Analysis Program for Ground Equipment
- 8. MCO 4733.1\_ Marine Corps Test, Measurement, and Diagnostics Equipment (TMDE) Calibration and Maintenance Program (CAMP)
- 9. MCO 4790.18\_ Corrosion Prevention and Control (CPAC) Program
- 10. MCO 4855.10\_ Product Quality Deficiency Report (PQDR)
- 11. MCO 5100.29\_ Marine Corps Safety Program
- 12. MCO P11262.2 Inspection, Testing, and Certification of Tactical Ground Load Lifting Equipment
- 13. MCO P4790.2\_ MIMMS Field Procedures Manual
- 14. MCWP 4-11 Tactical-Level Logistics
- 15. MCWP 4-11.4 Maintenance Operations

#### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17931 Medium/Heavy Equipment Training Area

**EQUIPMENT:** Tool sets, chests, and kits.

**ESB-MOBL-4001**: Conduct security for clearance operations

SUPPORTED MCT(S): MCT 1.4.1

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**EVALUATION-CODED:** YES **SUSTAINMENT INTERVAL:** 12 months

**DESCRIPTION:** Conduct security for clearance operations to provide sweep team freedom of action.

**CONDITION:** Provided a mission, designated area with known/potential/suspected obstacle(s), personnel, equipment, intelligence support and references.

**STANDARD:** To allow the sweep team freedom of maneuver while conducting sweeping operations in accordance with the concept of operations.

#### **EVENT COMPONENTS:**

- 1. Analyze intelligence for designated area.
- 2. Coordinate with supported unit as required.
- 3. Coordinate with supporting units as required.
- 4. Move to area to be cleared.
- 5. Coordinate w/clearance unit on site as required.
- 6. Establish area clearance security measures as required.
- 7. Visually identify other potential hazards within area.
- 8. Visually identify potential suspects/civilians in area.
- 9. Control/cordon all movement going into area as required.
- 10. Maintain communications w/clearance/sweep unit.
- 11. Submit required reports.

#### CHAINED EVENTS:

ESB-MOBL-3002 ESB-MOBL-3003

#### RELATED EVENTS:

1302-MOBL-1003 1302-MOBL-1004 1302-MOBL-1005 1302-MOBL-1006

#### **REFERENCES:**

- 1. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17B Engineer Forms and Reports
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3-17.8 Combined Arms Mobility Operations

# SUPPORT REQUIREMENTS:

#### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17730 Fire and Movement Range

**EQUIPMENT:** Combat engineer equipment, organic weapons, command and control assets.

# MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

ESB-MOBL-4002: Detect obstacles during clearance operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Detect obstacles during clearance operations in order to provide the MAGTF assured mobility.

CONDITION: Provided a mission, designated area with known/potential/suspected obstacle(s), personnel, equipment, intelligence support and references.

STANDARD: To ensure all obstacles/explosive hazards are detected, identified, and marked for reduction or bypass in accordance with the concept of operations.

# **EVENT COMPONENTS:**

- 1. Analyze intelligence for designated area.
- 2. Coordinate with supported unit, as required.
- 3. Coordinate with supporting units, as required.
- 4. Move to area to be cleared.
- 5. Confirm area clearance controls.
- 6. Visually identify all non-explosive obstacles within area.
- 7. Visually detect explosive hazards within area if possible.
- 8. Operate dismounted handheld detectors, as required.
- 9. Operate mounted detectors, as required.
- 10. Operate other detection equipment, as required.
- 11. Alternate detector operators to prevent fatigue, as required.
- 12. Mark obstacles for reduction, as required.
- 13. Submit required reports.

# CHAINED EVENTS: ESB-MOBL-3005

| ESB-MOBL-3005   | ESB-MOBL-3006  | ESB-MOBL-3007  |
|-----------------|----------------|----------------|
| RELATED EVENTS: |                |                |
| 1302-MOBL-1002  | 1302-MOBL-1003 | 1302-MOBL-1004 |
| 1302-MOBL-1009  | 1345-HEOP-1006 | 1345-HEOP-2009 |
| 1345-MANT-1001  | 1345-MANT-2001 | 1371-MOBL-2018 |
| 1371-MOBL-2021  | 1371-MOBL-2022 | 1371-MOBL-2024 |
| 1371-MOBL-2025  | 1371-MOBL-2026 | 1371-MOBL-2027 |

#### REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment

- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.4 Engineer Reconnaissance
- 8. MCWP 3-17.8 Combined Arms Mobility Operations

# SUPPORT REQUIREMENTS:

# RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces
Facility Code 17918 Road/Airfield Construction Training Site

**EQUIPMENT:** Motor Transportation, Engineer equipment, Route clearance assets, Command and Control assets.

ESB-MOBL-4003: Breach obstacles for clearance operations

SUPPORTED MCT(S): MCT 1.4.1

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**DESCRIPTION:** Breach obstacles during clearance operations to ensure the safe passage of combat, CS, and CSS organizations.

**CONDITION:** Provided a mission, designated area with known/potential/suspected obstacle(s), personnel, engineer tools and equipment, intelligence support, demolitions tools, explosives, and references.

<u>STANDARD</u>: To ensure all explosive and non-explosive hazards are removed or destroyed in accordance with the concept of operations and commander's intent.

# **EVENT COMPONENTS:**

- 1. Analyze intelligence for designated area.
- 2. Coordinate with supported unit, as required.
- 3. Coordinate with supporting units, as required.
- 4. Move to area to be cleared.
- 5. Confirm area clearance controls.
- 6. Visually identify all non-explosive obstacles within area.
- 7. Visually detect mines, boobytraps, and unexploded ordnance within area if possible.
- 8. Operate mounted mine detectors, as required.
- 9. Operated other detection equipment, as required.
- 10. Conduct earthmoving operations to detect obstacles, as required.
- 11. Alternate detector operators as required to prevent fatigue.
- 12. Mark obstacles for reduction, as required.
- 13. Destroy obstacle, as required.
- 14. Verify obstacle destruction.
- 15. Submit required reports.

#### REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.3 MAGTF Breaching Operations

# 9. MCWP 3-17.4 Engineer Reconnaissance

# SUPPORT REQUIREMENTS:

#### **ORDNANCE:**

| DOD. | IC                                     | Quantity                   |
|------|----------------------------------------|----------------------------|
| J143 | Rocket Motor, 5-inch MK22 Mod 4        | 3 cases per squad          |
| M028 | B Demolition Kit, Bangalore Torpedo M1 | 1 cases per squad          |
| M032 | 2 Charge, Demolition Block TNT 1-Pound | 10 charges per squad       |
| M130 | Cap, Blasting Electric M6              | 10 blasting caps per squad |
| M131 | l Cap, Blasting Non-Electric M7        | 20 blasting caps per squad |
| M456 | 5 Cord, Detonating PETN Type I Class E | 1500 FT per squad          |
| M670 | ) Fuse, Blasting Time M700             | 500 FT per squad           |
| M757 | 7 Charge, Assembly Demolition M183 Com | 2 cases per squad          |
| M913 | B Charge, Demolition High Explosive Li | 2 charges per squad        |
| M914 | 4 Charge, Demolition Inert Linear M68A | 1 charges per squad        |
| ML03 | B Firing Device, Demolition Multi-Purp | 2 detonators per squad     |
| MN08 | B Igniter, Time Blasting Fuse with Sho | 35 igniters per squad      |
| MN52 | 2 MK154 Mod 0                          | 10 detonators per squad    |
| MN79 | Mine, Antipersonnel Obstacle Breachi   | 1 mines per squad          |
|      |                                        |                            |

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

**EQUIPMENT:** Combat engineer detection equipment, Engineer Material Handling Equipment, Combat engineer breaching equipment.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event. In addition, mission and situation will dictate which breaching charge will be used.

**ESB-MOBL-4004:** Conduct dismounted route sweep operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 3 months

**DESCRIPTION:** Conduct dismounted route sweep operations to detect, investigate, mark, report, and reduce Explosive Hazards (EH) and other obstacles along a defined route to enable assured mobility.

<u>CONDITION</u>: Given a mission, commander's intent, a permissive or semipermissive environment, a route to be swept, task organized personnel and equipment, and references.

<u>STANDARD</u>: To ensure all explosive/non-explosive hazards are detected, identified, reduced, proofed, and/or marked to provide sufficient mobility to support the concept of operations and commander's intent integrating all

available resources.

#### **EVENT COMPONENTS:**

- 1. Analyze search route intelligence.
- 2. Coordinate with supported unit for security, as required.
- 3. Coordinate with supporting units.
- 4. Move to search area.
- 5. Detect obstacles along route.
- 6. Alternate detector operators as required to prevent fatigue.
- 7. Identify explosive components of obstacle(s).
- 8. Mark obstacle(s), as required.
- 9. Destroy obstacle(s), as required.
- 10. Verify obstacle reduction.
- 11. Coordinate explosive ordnance disposal activities, as required.
- 12. Coordinate with other SME personnel, as required.
- 13. Submit required reports.

# CHAINED EVENTS:

ESB-MOBL-3002 ESB-MOBL-3003 ESB-MOBL-3006 ESB-MOBL-3007

# **REFERENCES:**

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 3-13.2 MINE WARFARE
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.8 Combined Arms Mobility Operations

# SUPPORT REQUIREMENTS:

#### **ORDNANCE:**

| DODIC                                     | Quantity                     |
|-------------------------------------------|------------------------------|
| M032 Charge, Demolition Block TNT 1-Pound | d 10 charges per squad       |
| M130 Cap, Blasting Electric M6            | 30 blasting caps per squad   |
| M456 Cord, Detonating PETN Type I Class 1 | E 2000 FT per squad          |
| M670 Fuse, Blasting Time M700             | 250 FT per squad             |
| M757 Charge, Assembly Demolition M183 Cor | m 2 cases per squad          |
| MN08 Igniter, Time Blasting Fuse with Sho | o 25 igniters per squad      |
| MN88 Cap, Blasting, 500 ft mini-tube M21  | 5 blasting caps per squad    |
| MN90 Cap, Blasting, 1000 ft mini-tube M23 | 3 10 blasting caps per squad |

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

**EQUIPMENT:** Kevlar helmet, flak vest, AN/PRC 119, mine detectors, probe, compass, protractor, Hand Emplaced Mine Marking System (HEMMS) kit, sickle stick, DA FORM 1355-1-R.

MATERIAL: Engineer tape, concertina wire, barbed wire, engineer stakes,

tie wire, mine signs, sandbags.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

ESB-MOBL-4005: Conduct deliberate breach

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Conduct a deliberate breach (mounted and dismounted) to cross a strong and/or well-defended obstacle in order to continue the mission.

<u>CONDITION</u>: Provided a tactical scenario, mission, a minefield (or other suitable explosive/non-explosive obstacle), a task-organized breach force with personnel, equipment, and demolitions or explosives in their assault position.

**STANDARD:** To reduce, proof, and mark lanes through a minefield/obstacle in accordance with the mission and commander's intent.

# **EVENT COMPONENTS:**

- 1. Verify obstacle intelligence, as required.
- 2. Coordinate suppression of enemy over-watching obstacle.
- 3. Coordinate obscuration of enemy over-watching obstacle.
- 4. Coordinate security for breach lane.
- 5. Coordinate breach with assault force, support force, and support breach team(s).
- 6. Verify suppression/obscuration effects.
- 7. Employ deception plan, as required.
- 8. Move to breach site.
- 9. Reduce lane through obstacle.
- 10. Conduct gap crossing, as required.
- 11. Conduct earthmoving operations, as required.
- 12. Proof lane through obstacle.
- 13. Mark lane through obstacle.
- 14. Coordinate passage of assault force through breached lane.
- 15. Turnover lane to designated forces.
- 16. Submit required reports.
- 17. Reconstitute the breach force.

# CHAINED EVENTS:

| ESB-HEOP-3002 | ESB-HEOP-3003 | ESB-MOBL-3002 |
|---------------|---------------|---------------|
| ESB-MOBL-3003 | ESB-MOBL-3005 | ESB-MOBL-3006 |
| ESB-MOBL-3007 |               |               |

#### **REFERENCES:**

- 1. FM 21-75 Combat Skills of the Soldier
- 2. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCWP 3-17.3 MAGTF Breaching Operations
- 6. MCWP 3-17.8 Combined Arms Mobility Operations
- 7. TM 08982A-14&P/2B Operator's Manual for MK 155 Mine Clearance System

#### SUPPORT REQUIREMENTS:

#### ORDNANCE:

| DODIC                                     | Quantity           |
|-------------------------------------------|--------------------|
| J143 Rocket Motor, 5-inch MK22 Mod 4      | 4 rockets per Team |
| M913 Charge, Demolition High Explosive Li | 1 charges per Team |
| M914 Charge, Demolition Inert Linear M68A | 2 charges per Team |

# RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces
Facility Code 17420 Maneuver/Training Area, Heavy Forces
Facility Code 17830 Light Demolition Range
Facility Code 17918 Road/Airfield Construction Training Site

**EQUIPMENT:** Engineer Earthmoving equipment, Combat Engineer Breaching equipment, Demolition kit, Firing device (M34, MK 152 Remote firing device, CD450-4J Blasting machine, AN/PRC 119, Kevlar helmet, flak vest, hearing protection.

MATERIAL: Engineer stakes, rope, sledge hammer, stake driver, gloves

UNITS/PERSONNEL: Range Safety officer, Corpsman

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event. In addition, mission and situation will dictate which breaching charge will be used.

**ESB-MOBL-4006:** Conduct route improvement

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: Conduct route improvement to maintain the route and to prevent/limit explosive hazard concealment opportunities for the enemy.

**CONDITION:** Given a tactical situation, an operations order, commander's intent, a route to be improved, task organized personnel and equipment, engineer reconnaissance reports, and references.

STANDARD: To maintain the route in support of maneuver operations in accordance with the concept of operations and commander's intent.

# **EVENT COMPONENTS:**

- 1. Analyze engineer reconnaissance report(s).
- 2. Coordinate with route clearance mission commander (for repair materials, logistics, security, etc.).
- 3. Confirm improvement requirements.
- 4. Move to improvement area.
- 5. Operate as part of route clearance team.
- 6. Visually detect explosive and other hazards, as required.
- 7. Identify surface repairs, as required.
- 8. Operate engineer equipment, as required.
- 9. Remove obstructions (i.e., rubble/debris, vegetation, trash), as required.
- 10. Remove upheaval to required specifications.
- 11. Remove berms, as required.
- 12. Place additional fill/stabilization/reinforcement materials, as required.

- 13. Identify drainage structure repairs, as required.
- 14. Conduct culvert denial activities, as required.
- 15. Submit required reports.

# PREREQUISITE EVENTS: ESB-RECN-5001

# CHAINED EVENTS: ESB-HEOP-3002

| ESB-HEOP-3002   | ESB-HEOP-3003  | ESB-HORZ-3001  |
|-----------------|----------------|----------------|
| RELATED EVENTS: |                |                |
| 1302-MOBL-1002  | 1302-MOBL-1003 | 1302-MOBL-1004 |
| 1302-MOBL-1009  | 1302-MOBL-1010 | 1371-MOBL-2020 |
| 1371-MOBL-2021  | 1371-MOBL-2022 | 1371-MOBL-2023 |
| 1371-MOBL-2024  | 1371-MOBL-2025 | 1371-MOBL-2026 |
| 1371-MOBL-2027  |                |                |

#### REFERENCES:

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. GTA 5-7-13 Bridge Classification Booklet
- 3. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 4. MCRP 3-17.2D Explosive Hazard Operations
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 3-17.3 MAGTF Breaching Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.8 Combined Arms Mobility Operations

# SUPPORT REQUIREMENTS:

#### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17918 Road/Airfield Construction Training Site

**EQUIPMENT:** Combat engineer equipment, Engineer equipment.

ESB-MOBL-4007: Repair Runway Crater

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: These repairs may be required due to enemy or friendly action/damage, lack of maintenance, poor construction techniques (for existing surfaces), or environmental damage. This task may be part of Airfield Damage Repair (ADR), and Base Recovery after an Attack (BRAAT).

<u>CONDITION</u>: Given a tactical situation, an operations order, commander's intent, an airfield operating surface requiring repair, task organized personnel and equipment, damage assessment reports, and references.

**STANDARD:** To return the air field operating surface to a minimum operational capability within the design criteria and the commander's intent.

#### **EVENT COMPONENTS:**

- Analyze engineer reconnaissance/damage assessment report(s).
- 2. Coordinate crater repair.
- 3. Confirm repair requirements.
- 4. Conduct Explosive Ordnance Disposal (EOD) operations, as required.
- 5. Operate engineer equipment, as required.
- 6. Operate motor transport equipment, as required.
- 7. Remove ejecta from operating surfaces.
- 8. Remove upheaval to required specifications.
- 9. Square hole, as required.
- 10. Place fill/stabilization/reinforcement materials, as required.
- 11. Compact fill materials, as required.
- 12. Place geotextile layer(s), as required.
- 13. Surface repair with foreign object debris (FOD) cover, as required.
- 14. Reconstitute crater repair team.
- 15. Submit required reports

**PREREQUISITE EVENTS:** ESB-RECN-5001

# CHAINED EVENTS:

| ESB-HEOP-3002 | ESB-HEOP-3003 | ESB-RECN-3006 |
|---------------|---------------|---------------|
|               |               |               |

# RELATED EVENTS:

| 1302-EOPS-1004 | 1302-EOPS-1007 | 1302-RECN-1001 |
|----------------|----------------|----------------|
| 1371-EOPS-2004 | 1371-EOPS-2007 | 1371-EOPS-2010 |
| 1371-EOPS-2011 | 1371-EOPS-2012 |                |

#### **REFERENCES:**

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. GTA 5-7-13 Bridge Classification Booklet
- 3. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 4. MCRP 3-17.2D Explosive Hazard Operations
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 3-17.4 Engineer Reconnaissance

- 9. MCWP 3-17.5 Combined Arms Countermobility Operations
- 10. MCWP 3-17.8 Combined Arms Mobility Operations

# SUPPORT REQUIREMENTS:

#### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17918 Road/Airfield Construction Training Site

EQUIPMENT: Engineer equipment, Combat engineer equipment

ESB-MOBL-4008: Repair Spall(s)

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** These repairs may be required due to enemy or friendly action/damage, lack of maintenance, poor construction techniques (for existing surfaces), or environmental damage. This task may be part of Airfield Damage Repair (ADR), and Base Recovery after an Attack (BRAAT). Damage classified as a spall does not reach the base course underneath the operating surface of an airfield or road.

**CONDITION:** Given a tactical situation, an operations order, commander's intent, an airfield operating surface requiring repair, task organized personnel and equipment, damage assessment reports, and references.

**STANDARD:** To return the air field operating surface to a minimum operational capability within the design criteria and the commander's intent.

# **EVENT COMPONENTS:**

- 1. Analyze engineer reconnaissance/damage assessment report(s).
- Coordinate spall repair(s).
- 3. Confirm repair requirements.
- 4. Conduct Explosive Ordnance Disposal (EOD) operations, as required.
- 5. Operate engineer equipment, as required.
- 6. Remove ejecta from operating surfaces.
- 7. Fill damaged area with materials suitable for airfield operating surface.
- 8. Square hole, as required.
- 9. Tamp repair, as required.
- 10. Screed, as required.
- 11. Reconstitute spall repair team.
- 12. Submit required reports.

PREREQUISITE EVENTS: ESB-RECN-5001

# CHAINED EVENTS:

ESB-HEOP-3002 ESB-HEOP-3003 ESB-RECN-3006

# RELATED EVENTS:

| 1302-EOPS-1004 | 1302-EOPS-1007 | 1302-EOPS-1009 |
|----------------|----------------|----------------|
| 1302-RECN-1001 | 1371-EOPS-2004 | 1371-EOPS-2006 |

1371-EOPS-2017 1371-EOPS-2010 1371-EOPS-2011 1371-EOPS-2012

#### **REFERENCES:**

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. GTA 5-7-13 Bridge Classification Booklet
- 3. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 4. MCRP 3-17.2D Explosive Hazard Operations
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 3-17.3 MAGTF Breaching Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.8 Combined Arms Mobility Operations

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17918 Road/Airfield Construction
Training Site

**EQUIPMENT:** Engineer equipment, Motor transportation equipment, Combat engineer tools and kits, Combat engineer equipment

ESB-MOBL-4009: Repair Road Crater

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: These repairs may be required due to enemy or friendly action/damage, lack of maintenance, poor construction techniques (for existing surfaces), or environmental damage.

**CONDITION:** Given a tactical situation, an operations order, commander's intent, a roadway operating surface requiring repair, task organized personnel and equipment, engineer reconnaissance reports, and references.

**STANDARD:** To return the road operating surface to a minimum operational capability within the design criteria and the commander's intent.

# **EVENT COMPONENTS:**

- 1. Analyze engineer reconnaissance report(s).
- 2. Coordinate crater repair (materials, logistics, security, etc.).
- 3. Confirm repair requirements.
- 4. Conduct Explosive Ordnance Disposal (EOD) operations, as required.
- 5. Operate engineer equipment, as required.
- 6. Operate motor transport equipment, as required.
- 7. Remove upheaval to required specifications.
- 8. Remove debris from operating surfaces, as required.
- 9. Fill hole.
- 10. Compact fill materials, as required.
- 11. Square hole, as required.
- 12. Place geotextile layer(s), as required.

- 13. Place additional fill/stabilization/reinforcement materials, as required.
- 14. Repair shape of road, as required.
- 15. Surface repair, as required.
- 16. Repair drainage structures, as required.
- 17. Reconstitute crater repair team.
- 18. Submit required reports.

PREREQUISITE EVENTS: ESB-RECN-5001

#### CHAINED EVENTS:

ESB-HEOP-3002 ESB-HEOP-3003

#### RELATED EVENTS:

| 1302-EOPS-1007 | 1302-EOPS-1009 | 1302-HORZ-1002 |
|----------------|----------------|----------------|
| 1302-MOBL-1001 | 1371-EOPS-2010 | 1371-EOPS-2011 |
| 1371-EOPS-2012 | 1371-HORZ-2002 | 1371-HORZ-2003 |

# REFERENCES:

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. GTA 5-7-13 Bridge Classification Booklet
- 3. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 4. MCRP 3-17.2D Explosive Hazard Operations
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 3-17.3 MAGTF Breaching Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-17.8 Combined Arms Mobility Operations

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17918 Road/Airfield Construction
Training Site

**EQUIPMENT:** Engineer equipment, Combat engineer tools and kits, Combat engineer equipment, Motor transportation equipment

**ESB-MOBL-4010:** Employ demolitions in support of mobility operations

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Employ demolitions in support of mobility operations to reduce/destroy obstacles (explosive and non-explosive) that present mobility impediments to operating forces on routes.

**CONDITION:** Provided a mission order, task organized personnel and equipment, Class V, personal protective equipment (PPE), and references.

**STANDARD:** To reduce mobility obstacles on designated routes and ensure mobility in accordance in the commander's intent, concept of operations and mission requirement.

# **EVENT COMPONENTS:**

- 1. Review the mission.
- 2. Coordinate with supporting unit(s).
- Conduct final coordination with supported unit (location, requirements, security, etc.), as required.
- 4. Prepare equipment and materials for operation.
- 5. Move to obstacle sites(s).
- 6. Setup security.
- 7. Prepare charges.
- 8. Place charges.
- 9. Reduce obstacle(s).
- 10. Proof obstacle(s).
- 11. Clear site with support equipment, as required.
- 12. Reconstitute obstacle clearing force.
- 13. Submit required reports.

# CHAINED EVENTS:

| ESB-HEOP-3002 | ESB-MOBL-3002 | ESB-MOBL-3003 |
|---------------|---------------|---------------|
| ESB-MOBL-3005 | ESB-MOBL-3006 | ESB-MOBL-3007 |

# REFERENCES:

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 3-17 Engineering Operations

# SUPPORT REQUIREMENTS:

# **ORDNANCE:**

| DODIC                                     | <u>Quantity</u>            |
|-------------------------------------------|----------------------------|
| M023 Charge, Demolition Block M112 1-1/4  | 30 charges per squad       |
| M032 Charge, Demolition Block TNT 1-Pound | 30 charges per squad       |
| M130 Cap, Blasting Electric M6            | 10 blasting caps per squad |
| M131 Cap, Blasting Non-Electric M7        | 20 blasting caps per squad |
| M456 Cord, Detonating PETN Type I Class E | 2000 FT per squad          |
| M591 Dynamite, Military M1                | 20 charges per squad       |
| M670 Fuse, Blasting Time M700             | 1000 FT per squad          |
| ML03 Firing Device, Demolition Multi-Purp | 10 detonators per squad    |
| MN08 Igniter, Time Blasting Fuse with Sho | 30 igniters per squad      |
| MN52 MK154 Mod 0                          | 20 detonators per squad    |

**EQUIPMENT:** Engineer Material Handling equipment, Combat engineer Demolitions kit

UNITS/PERSONNEL: Range Safety Officer, Corpsman

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this

event. In addition, mission and situation will dictate which breaching charge will be used.

ESB-MOBL-4011: Assemble Medium Girder Bridge

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** This task applies to Bridge companies with organic equipment readily available to perform mobility operations in support of the MAGTF.

**CONDITION:** Provided a mission, commanders intent, a bridge construction site, Medium Girder Bridge (MGB) components, tools, launch vehicle, task organized personnel, and reference.

 $\underline{\text{STANDARD}}$ : To meet design specifications and intended bridge classification while observing safety precautions during erection and launch in accordance with TM 5-5420-212-12.

# **EVENT COMPONENTS:**

- 1. Review gap specific engineer reconnaissance information.
- 2. Verify gap physical characteristics.
- 3. Prepare site for construction.
- 4. Assemble bridge erection set.
- 5. Assemble end of bridge components.
- 6. Assemble bridge components (top panels, bottom panels, reinforcement, etc.), as required.
- 7. Assemble launching nose components.
- 8. Boom/launch bridge to specified panel point.
- 9. Assemble far shore components.
- 10. Lower bridge to deck.
- 11. Complete reinforcement of bridge, as required.
- 12. Recover bridge erection set and far shore components.
- 13. Dress the bridge.
- 14. Submit required reports.

# CHAINED EVENTS:

ESB-HEOP-3002 ESB-HEOP-3003 ESB-RECN-3001

ESB-RECN-3008

#### RELATED EVENTS:

1302-MOBL-1012 1371-MOBL-1004

#### **REFERENCES:**

- 1. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 2. MCWP 3-17.8 Combined Arms Mobility Operations

# SUPPORT REQUIREMENTS:

# RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces
Facility Code 17921 Armored Vehicle Launch Bridge, Raft, And Ford Area

**EQUIPMENT:** Engineer Material Handling equipment, Engineer Earthmoving equipment, Combat engineer equipment

ESB-MOBL-4012: Assemble Ribbon Bridge

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: The ribbon bridge is a floating modular asset with an integral superstructure and floating supports. Individual bays are joined to form rafts or bridges for river-crossing operations. Ribbon bridges and rafts provide a reliable and responsive means of crossing wet gaps.

<u>CONDITION</u>: Provided a mission, commanders intent, wet gap crossing site, improved ribbon bridge components, tools, bridge erection boats, fuel, task organized personnel, and references.

<u>STANDARD</u>: To meet design specifications and mobility requirements while observing safety precautions during erection and launch in accordance with TM 5420-209-12.

#### **EVENT COMPONENTS:**

- 1. Review references/directives/specifications.
- 2. Review gap specific engineer reconnaissance information.
- 3. Verify wet gap physical characteristics.
- 4. Brief/instruct the crew on the mission/assignment.
- 5. Offload bridge erection boats.
- 6. Offload bridge bays.
- 7. Connect interior bays.
- 8. Connect ramp bays.
- 9. Position bridge.
- 10. Lower ramps on banks.
- 11. Anchor bridge as required.
- 12. Coordinate emergency procedures with safety boat(s).
- 13. Submit required reports.

PREREQUISITE EVENTS: ESB-RECN-3008

#### CHAINED EVENTS:

ESB-HEOP-3002 ESB-HEOP-3003 ESB-MOBL-3001

#### RELATED EVENTS:

 1302-MOBL-1011
 1302-MOBL-1015
 1302-RECN-1001

 1371-MOBL-2002
 1371-MOBL-2003
 1371-MOBL-2007

#### REFERENCES:

- 1. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 2. MCRP 3-17A Engineering Field Data
- 3. MCRP 3-17B Engineer Forms and Reports
- 4. MCWP 3-17.8 Combined Arms Mobility Operations
- 5. TM 5-1940-277-10 Operators Manual Bridge Erection Boat USCSBMK 1&2
- 6. TM 5420-209-12 Operators and Organizational Manual Improved Floating

Bridge (Ribbon Bridge)

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17922 Floating Bridge Site

EQUIPMENT: Engineer Material Handling equipment, Engineer Earthmoving

equipment, Combat engineer equipment, Motor Transportation

ESB-MOBL-4013: Assemble ribbon raft

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: The ribbon bridge is a floating modular asset with an integral superstructure and floating supports. Individual bays are joined to form rafts or bridges for river-crossing operations. Ribbon bridges and rafts provide a reliable and responsive means of crossing wet gaps.

<u>CONDITION</u>: Provided a mission, commanders intent, wet gap crossing site, bridge components, bridge erection equipment, tools, bridge erection boats, fuel, task organized personnel, and references.

**STANDARD:** To meet design specification while observing safety precautions during erection and launch in accordance with TM 5420-209-12 Operators and Organizational manual Improved Floating Bridge (Ribbon Bridge).

# **EVENT COMPONENTS:**

- 1. Review references/directives/specifications.
- 2. Review gap specific engineer reconnaissance information.
- 3. Verify wet gap physical characteristics.
- 4. Brief/instruct the crew on the mission/assignment.
- 5. Offload bridge erection boats.
- 6. Offload bridge bays.
- 7. Connect interior bays.
- 8. Connect ramp bays.
- 9. Connect boats to raft.
- 10. Position raft.
- 11. Prepare to load/stow vehicles/equipment.
- 12. Coordinate emergency procedures with safety boat(s).
- 13. Submit required reports.

PREREQUISITE EVENTS: ESB-RECN-3008

#### CHAINED EVENTS:

| ESB-HEOP-3002   | ESB-HEOP-3003 | ESB-MOBL-3001 |
|-----------------|---------------|---------------|
| RELATED EVENTS: |               |               |

| 1302-MOBL-1011 | 1302-MOBL-1015 | 1371-MOBL-2003 |
|----------------|----------------|----------------|
| 1371-MOBL-2005 | 1371-MOBL-2006 | 1371-MOBL-2007 |
| 1371-MOBL-2008 |                |                |

#### **REFERENCES:**

- 1. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 2. MCRP 3-17A Engineering Field Data
- 3. MCRP 3-17B Engineer Forms and Reports
- 4. MCWP 3-17.8 Combined Arms Mobility Operations
- 5. TM 5-1940-277-10 Operators Manual Bridge Erection Boat USCSBMK 1&2
- 6. TM 5420-209-12 Operators and Organizational Manual Improved Floating Bridge (Ribbon Bridge)

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17922 Floating Bridge Site

**EQUIPMENT:** Engineer Material Handling equipment, Engineer Earthmoving equipment, Combat engineer equipment, Motor Transportation

ESB-MOBL-4014: Maneuver a standard military ribbon raft

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 3 months

**<u>DESCRIPTION</u>**: This task applies to Bridge companies with organic equipment readily available to perform mobility operations in support of the MAGTF.

**CONDITION:** Given a mission, commander's intent, task organization of equipment and personnel, an assembled ribbon raft, a wet gap, and references.

**STANDARD:** To ensure mobility to meet the mission requirements while observing safety precautions during all rafting operations in accordance with the concept of operations, commander's intent and TM 5420-209-12 Operators and Organizational manual Improved Floating Bridge (Ribbon Bridge).

# **EVENT COMPONENTS:**

- 1. Review gap specific engineer reconnaissance information.
- 2. Verify wet gap physical characteristics.
- 3. Supervise loading/ stowage of vehicles/ equipment.
- 4. Distribute personal floatation devices as required.
- 5. Coordinate emergency procedures with safety boat(s).
- 6. Command rafting operations.
- 7. Land raft.
- 8. Supervise unloading/ offload of vehicles/ equipment.
- 9. Repeat as required.
- 10. Submit required reports.

PREREQUISITE EVENTS: ESB-RECN-3008

# CHAINED EVENTS:

ESB-HEOP-3002 ESB-MOBL-3001

# RELATED EVENTS:

1302-MOBL-1011 1302-MOBL-1015 1371-MOBL-2003 1371-MOBL-2005 1371-MOBL-2006 1371-MOBL-2007 1371-MOBL-2008

#### **REFERENCES:**

- 1. MCRP 3-17A Engineering Field Data
- 2. MCRP 3-17B Engineer Forms and Reports
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.1 Combined Arms Gap-Crossing Operations
- 5. MCWP 3-17.8 Combined Arms Mobility Operations
- 6. TM 5-1940-277-10 Operators Manual Bridge Erection Boat USCSBMK 1&2
- 7. TM 5420-209-12 Operators and Organizational Manual Improved Floating Bridge (Ribbon Bridge)

#### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17922 Floating Bridge Site

**EQUIPMENT:** Engineer Material Handling equipment, Motor transportation, CRRC/Safety boat

**ESB-PINF-4001:** Fight as provisional infantry

#### SUPPORTED MCT(S):

MCT 1.1.2 MCT 1.4.1 MCT 1.4.2

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Fight as provisional infantry participate in offensive operations such as attacks, raids, movement to contact, etc. Defensive operations that include withdrawal, patrolling, check point ops, convoy ops, and employment of organic weapons. Additional responsibilities may include operations other than war (civil disturbance, TRAP, cordon and search) and MOUT (attack, defend, patrol, clear a building, vehicle check point).

CONDITION: Given a requirement, commander's intent and references.

**STANDARD:** To augment a supported unit during the conduct of offensive or defensive operations.

#### **EVENT COMPONENTS:**

- 1. Conduct planning.
- 2. Task organize.
- 3. Issue orders.
- 4. Conduct inspections, rehearsals, and preparations.
- 5. Elements employ appropriate formations and tactics.
- 6. Conduct final preparations.
- 7. Use, coordinate, and observe fires.
- 8. Employ supporting arms, as required.
- 9. Establish redundant communications.
- 10. Treat and evacuate casualties, as required.
- 11. Process detainees, as required.
- 12. Send and receive required reports.

# CHAINED EVENTS:

ESB-MOBL-3002 ESB-MOBL-3003

#### **REFERENCES:**

- 1. MCDP 1 Warfighting
- 2. MCDP 1-3 Tactics
- 3. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 4. MCRP 3-02G First Aid
- 5. MCWP 3-11.2 Marine Rifle Squad

#### SUPPORT REQUIREMENTS:

#### RANGE/TRAINING AREA:

Facility Code 17413 Field Training Area Facility Code 17730 Fire and Movement Range

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Type/quantities of ammunition, explosives and pyrotechnics are documented with the 3000 Level Events Chained to this event.

ESB-RECN-4001: Conduct site survey

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct site survey to reconnoiter a site or area as part of survey, liaison and reconnaissance party to allow critical planning of specific construction and or operations in support of the MAGTF.

**CONDITION:** Provided a mission order, task organized personnel and equipment, and references.

**STANDARD:** To allow for critical planning of facilities and projects in accordance with the concept of operations and commander's intent.

# **EVENT COMPONENTS:**

- 1. Review the mission.
- 2. Coordinate with supporting unit, as required.
- 3. Conduct final coordination with supported unit (location, requirements, security, etc.), as required.
- 4. Move to site or area.
- 5. Gather critical information, as required.
- 6. Make liaisons as required.
- 7. Develop draft plans and schematics, as required.
- 8. Plan resources, as required.
- 9. Submit required reports.

CHAINED EVENTS: ESB-RECN-3001

# RELATED EVENTS:

1302-HORZ-1001 1302-PLAN-1002 1302-PLAN-2004

| 1302-VERT-1001 | 1361-SRVY-1001 | 1361-SRVY-1002 |
|----------------|----------------|----------------|
| 1361-SRVY-1003 | 1361-SRVY-1004 | 1361-SRVY-1005 |
| 1361-SRVY-1006 | 1361-SRVY-1007 | 1361-SRVY-1008 |
| 1361-SRVY-1009 | 1361-SRVY-1010 | 1361-SRVY-1011 |
| 1361-SRVY-1012 | 1361-SRVY-2002 | 1361-XENG-2001 |
| 1361-XENG-2002 | 1371-PLAN-2002 |                |

#### **REFERENCES:**

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. MCRP 3-17.7F Project Management
- 3. MCRP 3-17A Engineering Field Data
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance

# SUPPORT REQUIREMENTS:

**EQUIPMENT:** Engineer survey equipment

UNITS/PERSONNEL: Engineer surveyor 1361

ESB-RECN-4002: Conduct cache sweep

SUPPORTED MCT(S): MCT 2.2.2

**EVALUATION-CODED:** YES **SUSTAINMENT INTERVAL:** 12 months

**DESCRIPTION:** Conduct cache sweep operations in order to detect, identify and secure materials (documents, discs, tapes, weapons, explosives, ammunition, chemical materials, bombs, electronic equipment, etc.). Appropriate safety and evidentiary preservation measures should be employed during cache sweeps.

**CONDITION:** Provided a mission, designated area/building to search for known, potential, or suspected materials that may be used against friendly forces or be of intelligence value.

**STANDARD:** To detect, identify, and secure materials discovered during the course of the search in accordance with the commander's intent and concept of operations.

# **EVENT COMPONENTS:**

- 1. Analyze search area intelligence.
- 2. Tasks organize.
- 3. Coordinate with supported unit.
- 4. Coordinate with supporting units.
- 5. Detect cache within search area.
- 6. Identify items within cache(s).
- 7. Mark cache(s) as required.
- 8. Destroy captured enemy ammunition, as required.
- 9. Verify cache destruction.
- 10. Coordinate explosive ordnance disposal activities, as required.
- 11. Coordinate weapons intelligence team activities, as required.
- 12. Coordinate with other specialist personnel, as required.

- 13. Document/preserve evidence, as required.
- 14. Submit required reports.

CHAINED EVENTS: ESB-RECN-3002

#### RELATED EVENTS:

| 1302-DEMO-1004 | 1302-MOBL-1002 | 1302-MOBL-1003 |
|----------------|----------------|----------------|
| 1302-MOBL-1009 | 1371-MOBL-1002 | 1371-MOBL-1003 |
| 1371-MOBL-2018 | 1371-MOBL-2020 | 1371-MOBL-2021 |
| 1371-MOBL-2022 |                |                |

#### REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-1 Ground Combat Operations
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.2 MAGTF Explosive Ordnance Disposal
- 8. MCWP 3-17.4 Engineer Reconnaissance

# SUPPORT REQUIREMENTS:

#### ORDNANCE:

| DODIC                                     | Quantity                   |
|-------------------------------------------|----------------------------|
| K143 Mine, Antipersonnel M18A1 with M57 F | 1 mines per squad          |
| L495 Flare, Surface Trip M49 Series       | 4 flares per squad         |
| L598 Simulator, Explosive Booby Trap Flas | 4 Simulator per squad      |
| M032 Charge, Demolition Block TNT 1-Pound | 10 charges per squad       |
| M039 Charge, Demolition Cratering 40-Poun | 1 charges per squad        |
| M130 Cap, Blasting Electric M6            | 10 blasting caps per squad |
| M131 Cap, Blasting Non-Electric M7        | 20 blasting caps per squad |
| M420 Charge, Demolition Shaped M2 Series  | 1 charges per squad        |
| M421 Charge, Demolition Shaped M3 Series  | 1 charges per squad        |
| M456 Cord, Detonating PETN Type I Class E | 1500 FT per squad          |
| M591 Dynamite, Military M1                | 10 charges per squad       |
| M670 Fuse, Blasting Time M700             | 500 FT per squad           |
| M757 Charge, Assembly Demolition M183 Com | 2 charges per squad        |
| ML03 Firing Device, Demolition Multi-Purp | 2 igniters per squad       |
| MN08 Igniter, Time Blasting Fuse with Sho | 35 igniters per squad      |

# RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17413 Field Training Area Facility Code 17730 Fire and Movement Range Facility Code 17830 Light Demolition Range

**EQUIPMENT:** Combat engineer tools and kits, Combat Engineer detection equipment.

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per squad. Final amounts should be adjusted to reflect sustainment intervals for this event.

ESB-RECN-4003: Conduct zone reconnaissance

**SUPPORTED MCT(S): MCT** 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct zone reconnaissance to reconnoiter a delineated area to compile pertinent information and to clarify the threat situation, gather obstacle/terrain intelligence, zone infrastructure.

**CONDITION:** Given a mission, commander's intent, task organized personnel and equipment, and references.

<u>STANDARD</u>: To gather all relevant engineer data, and produce an engineer estimate (or designated products or guidance) in accordance with unit SOPs, the concept of operations and the commander's intent.

#### **EVENT COMPONENTS:**

- 1. Review mission.
- 2. Coordinate support requirements and location(s).
- 3. Conduct final coordination with supported unit (location, requirements, security, etc.).
- 4. Conduct final coordination with supporting units (logistics, etc.).
- 5. Conduct final rehearsals and immediate action drills, as required.
- 6. Reconnoiter for enemy threat, as required.
- 7. Reconnoiter routes, as required.
- 8. Reconnoiter infrastructures, as required.
- 9. Reconnoiter for obstacles, as required.
- 10. Submit required reports.

#### CHAINED EVENTS:

ESB-RECN-3002 ESB-RECN-3003 ESB-RECN-3004 ESB-RECN-3008

# REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. GTA 5-7-13 Bridge Classification Booklet
- 5. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 9. MCWP 3-17 Engineering Operations
- 10. MCWP 3-17.4 Engineer Reconnaissance
- 11. MCWP 3-17.8 Combined Arms Mobility Operations

# SUPPORT REQUIREMENTS:

#### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17730 Fire and Movement Range

**EQUIPMENT:** Combat engineer equipment.

ESB-RECN-4004: Conduct route reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct route reconnaissance to reconnoiter specific routes to compile pertinent information and to clarify the threat situation, gather obstacle/terrain intelligence, infrastructure.

**CONDITION:** Given a mission, commander's intent, task organized personnel and equipment, and references.

<u>STANDARD</u>: To gather all relevant engineer data, and produce an engineer estimate (or designated products or guidance) in accordance with unit SOPs, the concept of operations and the commander's intent.

#### **EVENT COMPONENTS:**

- 1. Review mission.
- 2. Issue the order.
- 3. Coordinate support requirements.
- 4. Conduct final coordination with supported unit (location, requirements and security).
- 5. Conduct final coordination with supporting units, as required.
- 6. Conduct final rehearsals and immediate action drills, as required.
- 7. Reconnoiter roads/routes, as required.
- 8. Reconnoiter tunnels, as required.
- 9. Reconnoiter bridges, as required.
- 10. Reconnoiter for fords/ferries, as required.
- 11. Reconnoiter for landing zones, as required.
- 12. Submit required reports.

#### CHAINED EVENTS:

ESB-RECN-3003 ESB-RECN-3004 ESB-RECN-3005

ESB-RECN-3008

# **REFERENCES:**

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. GTA 5-7-13 Bridge Classification Booklet
- 3. JP 3-34 Joint Engineer Operations
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.4 Engineer Reconnaissance
- 8. MCWP 3-17.5 Combined Arms Countermobility Operations

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

**EQUIPMENT:** Combat engineer equipment

ESB-RECN-4005: Conduct area reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**<u>DESCRIPTION</u>**: Conduct area reconnaissance to reconnoiter an area to compile pertinent information and to clarify the threat situation, gather obstacle/terrain intelligence, area infrastructure in established lateral boundaries.

**CONDITION:** Given a mission, commander's intent, task organized personnel and equipment, and references.

**STANDARD:** To gather all relevant data, and produce an engineer estimate (or designated products or guidance) in accordance with unit SOPs, the concept of operations and the commander's intent.

# **EVENT COMPONENTS:**

- 1. Review mission.
- 2. Issue the order.
- 3. Coordinate support requirements.
- 4. Conduct final coordination with supported unit (location, requirements, security, etc.).
- 5. Conduct final coordination with supporting units, as required.
- 6. Conduct final rehearsals and immediate action drills, as required.
- 7. Reconnoiter roads/routes to specified area, as required.
- 8. Reconnoiter infrastructure/facilities in specified area, as required.
- 9. Reconnoiter obstacles in specified area, as required.
- 10. Reconnoiter structures in specified area, as required.
- 11. Submit required reports.

#### CHAINED EVENTS:

| ESB-RECN-3001 | ESB-RECN-3003 | ESB-RECN-3004 |
|---------------|---------------|---------------|
| ESB-RECN-3005 | ESB-RECN-3006 | ESB-RECN-3007 |
| ESB-RECN-3008 |               |               |

#### **REFERENCES:**

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. GTA 5-7-13 Bridge Classification Booklet
- 5. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 9. MCWP 3-17 Engineering Operations
- 10. MCWP 3-17.4 Engineer Reconnaissance

# 11. MCWP 3-17.8 Combined Arms Mobility Operations

# SUPPORT REQUIREMENTS:

# RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces

**EQUIPMENT:** Combat engineer equipment

ESB-SURV-4001: Harden existing structure

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Harden existing structure in order to reduce the vulnerability of personnel, equipment, weapons, and supplies to enemy fire and as a means to enhance force protection.

<u>CONDITION</u>: Provided a mission, in an urban environment, commander's intent, reconnaissance reports, and survivability plan, a task organization of personnel and equipment, and references.

**STANDARD:** To meet the mission requirements in accordance with the concept of operations and commander's intent.

# **EVENT COMPONENTS:**

- 1. Review mission.
- 2. Review engineer reconnaissance and survey reports.
- 3. Coordinate with supported unit for specific position requirements.
- 4. Coordinate resources for project.
- 5. Conduct site preparation.
- 6. Construct perimeter security, as required.
- 7. Shore walls/ floors/ roofs, as required.
- 8. Remove/ reinforce windows, as required.
- 9. Compartmentalize interior of structure, as required.
- 10. Emplace prefabricated barrier(s), as required.
- 11. Construct earth filled barrier/structure(s), as required.
- 12. Conduct earthmoving operations, as required.
- 13. Construct overhead cover, as required.
- 14. Construct shelter/bunker, as required.
- 15. Construct triggering screen, as required.
- 16. Provide tactical power, as required.
- 17. Submit required reports.

#### **PREREQUISITE EVENTS:** ESB-RECN-5001

# CHAINED EVENTS:

| ESB-CMOB-3001 | ESB-CMOB-3002 | ESB-CMOB-3003 |
|---------------|---------------|---------------|
| ESB-HEOP-3001 | ESB-HEOP-3002 | ESB-HEOP-3003 |
| ESB-SURV-3001 | ESB-SURV-3002 | ESB-SURV-3003 |
| ESB-SURV-3004 | ESB-SURV-3005 | ESB-SURV-3006 |

| ESB-SURV-3007   | ESB-SURV-3008  | ESB-UTIL-3001  |
|-----------------|----------------|----------------|
| ESB-UTIL-3002   | ESB-UTIL-3003  | ESB-UTIL-3004  |
|                 |                |                |
| RELATED EVENTS: |                |                |
| 1302-EOPS-1001  | 1302-EOPS-1002 | 1302-EOPS-1003 |
| 1302-EOPS-1009  | 1302-RECN-1001 | 1302-SURV-1001 |
| 1371-EOPS-2005  | 1371-EOPS-2006 | 1371-EOPS-2007 |
| 1371-EOPS-2010  | 1371-EOPS-2011 | 1371-EOPS-2012 |
| 1371-HORZ-2004  | 1371-HORZ-2005 | 1371-RECN-1001 |
| 1371-RECN-2001  | 1371-SURV-1001 | 1371-SURV-2001 |
| 1371-SURV-2002  | 1371-VERT-1001 | 1371-VERT-1002 |
| 1371-VERT-1003  | 1371-VERT-1004 | 1371-VERT-1005 |
| 1371-VERT-2001  | 1371-VERT-2002 |                |

#### REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. FM 5-553 General Drafting
- 4. JP 3-15 Barriers, Obstacles, and Mine Warfare for Joint Operations
- 5. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 6. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 7. MCRP 3-17.7C Carpentry
- 8. MCRP 3-17.7D Concrete and Masonry
- 9. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 10. MCRP 3-17.7F Project Management
- 11. MCRP 3-17.7I Earthmoving Operations
- 12. MCRP 3-17.7L Explosives and Demolitions
- 13. MCRP 3-17A Engineering Field Data
- 14. MCRP 3-17B Engineer Forms and Reports
- 15. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 16. MCWP 3-13.2 MINE WARFARE
- 17. MCWP 3-17 Engineering Operations
- 18. MCWP 3-17.4 Engineer Reconnaissance
- 19. MCWP 3-17.6 Survivability
- 20. MCWP 4-11 Tactical-Level Logistics

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17420 Maneuver/Training Area, Heavy
Forces

**EQUIPMENT:** Engineer Material Handling Equipment, Engineer earthmoving equipment, Combat engineer tools & kits, Utilities equipment.

ESB-SURV-4002: Construct field fortifications

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Construct field fortifications that reduce the vulnerability of

personnel, equipment, weapons, and supplies to enemy fire, increase effectiveness of friendly weapons, and as a means to enhance force protection.

**CONDITION:** Provided a mission, commander's intent, reconnaissance reports, a task organization of personnel and equipment, and references.

**STANDARD:** To meet mission requirements in accordance with the concept of operations and commander's intent.

# **EVENT COMPONENTS:**

- 1. Review mission.
- 2. Review engineer reconnaissance and survey.
- 3. Coordinate with supported unit for specific position placement and requirements.
- 4. Construct survivability positions, as required.
- 5. Construct wire obstacles, as required.
- 6. Construct field expedient obstacles, as required.
- Construct/emplace barrier(s), as required.
- 8. Construct/emplace explosive obstacle(s), as required.
- 9. Conduct vertical construction, as required.
- 10. Harden existing structures, as required.
- 11. Conduct earthmoving operations, as required.
- 12. Provide tactical power, as required.
- 13. Submit required reports.

# PREREQUISITE EVENTS: ESB-RECN-5001

| CHAINED EVENTS: |                |                |
|-----------------|----------------|----------------|
| CLB-VERT-4001   | ESB-CMOB-3001  | ESB-CMOB-3002  |
| ESB-HEOP-3002   | ESB-HEOP-3003  | ESB-SURV-3001  |
| ESB-SURV-3002   | ESB-SURV-3003  | ESB-SURV-3004  |
| ESB-SURV-3005   | ESB-UTIL-3001  | ESB-UTIL-3003  |
| ESB-UTIL-3004   | ESB-VERT-4001  |                |
|                 |                |                |
| RELATED EVENTS: |                |                |
| 1302-CMOB-1001  | 1302-CMOB-1003 | 1302-EOPS-1001 |
| 1302-EOPS-1002  | 1302-EOPS-1003 | 1302-EOPS-1009 |
| 1302-RECN-1001  | 1302-SURV-1001 | 1302-SURV-1002 |
| 1302-SURV-1003  | 1302-SURV-1005 | 1371-CMOB-1001 |
| 1371-CMOB-1002  | 1371-CMOB-1003 | 1371-CMOB-2001 |
| 1371-CMOB-2002  | 1371-CMOB-2003 | 1371-DEMO-1001 |
| 1371-EOPS-1001  | 1371-EOPS-2005 | 1371-EOPS-2006 |
| 1371-EOPS-2010  | 1371-EOPS-2011 | 1371-EOPS-2012 |
| 1371-HORZ-1001  | 1371-HORZ-1002 | 1371-HORZ-1003 |
| 1371-HORZ-2004  | 1371-HORZ-2005 | 1371-SURV-1001 |
| 1371-VERT-1001  | 1371-VERT-1002 | 1371-VERT-1003 |
| 1371-VERT-1004  | 1371-VERT-1005 |                |

# REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17A Engineering Field Data

- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance
- 7. MCWP 3-17.6 Survivability
- 8. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 9. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 10. MCWP 3-41.1 Rear Area Operations
- 11. MCWP 4-11 Tactical-Level Logistics

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17420 Maneuver/Training Area, Heavy Forces

**EQUIPMENT:** Engineer earthmoving equipment, Engineer Material Handling Equipment, Combat engineer tools and equipment, Utilities equipment.

MATERIAL: Map, Compass, Protractor, Overlay sheets, Reconnaissance reports.

#### MISCELLANEOUS:

**ADMINISTRATIVE INSTRUCTIONS: ORM** 

ESB-SURV-4003: Construct Vehicle Control Point (VCP)

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: Construct Vehicle Control Point (VCP) to control, restrict and monitor movement of personnel and equipment and to gain information/data on suspected vehicles during military operations.

**CONDITION:** Provided a mission, commander's intent, intelligence reports, task organization of personnel and equipment, Class IV supplies, and references.

**STANDARD:** To gain information and maintain control of vehicles, pedestrians, and materials in accordance with mission requirements and commander's intent.

# **EVENT COMPONENTS:**

- 1. Review mission.
- 2. Review intelligence reports.
- 3. Coordinate with supported unit for specific position requirements.
- 4. Coordinate resources for project.
- 5. Coordinate security, as required.
- 6. Conduct site preparation and layout.
- 7. Construct survivability positions, as required.
- 8. Emplace prefabricated barrier(s), as required.
- 9. Construct wire obstacles, as required.
- 10. Construct expedient obstacles, as required.
- 11. Construct earth filled barrier/structure(s), as required.
- 12. Conduct earthmoving operations, as required.

- 13. Establish vehicle waiting area, as required.
- 14. Construct search lanes, as required.
- 15. Construct personnel search area(s), as required.
- 16. Construct/emplace signs, as required.
- 17. Provide tactical power, as required.
- 18. Submit required reports.

# CHAINED EVENTS:

| CHAINED EVENID. |                |                |
|-----------------|----------------|----------------|
| ESB-CMOB-3001   | ESB-CMOB-3002  | ESB-HEOP-3002  |
| ESB-HEOP-3003   | ESB-RECN-3001  | ESB-SURV-3001  |
| ESB-SURV-3002   | ESB-SURV-3003  | ESB-SURV-3004  |
| ESB-SURV-3005   | ESB-SURV-3006  | ESB-SURV-3007  |
| ESB-SURV-3008   | ESB-UTIL-3001  | ESB-UTIL-3002  |
| ESB-UTIL-3003   | ESB-UTIL-3004  |                |
|                 |                |                |
| RELATED EVENTS: |                |                |
| 1302-CMOB-1001  | 1302-CMOB-1003 | 1302-EOPS-1001 |
| 1302-EOPS-1002  | 1302-EOPS-1003 | 1302-EOPS-1009 |
| 1302-RECN-1001  | 1302-SURV-1001 | 1302-SURV-1002 |
| 1302-SURV-1003  | 1302-SURV-1005 | 1371-CMOB-1001 |
| 1371-CMOB-1002  | 1371-CMOB-1003 | 1371-CMOB-2001 |
| 1371-CMOB-2002  | 1371-CMOB-2003 | 1371-DEMO-1001 |
| 1371-EOPS-1001  | 1371-EOPS-2005 | 1371-EOPS-2006 |
| 1371-EOPS-2010  | 1371-EOPS-2011 | 1371-EOPS-2012 |
| 1371-HORZ-1001  | 1371-HORZ-1002 | 1371-HORZ-1003 |
| 1371-HORZ-2004  | 1371-HORZ-2005 | 1371-SURV-1001 |
|                 |                |                |

1371-VERT-1005

# REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry

1371-VERT-1001 1371-VERT-1004

- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance
- 7. MCWP 3-17.6 Survivability
- 8. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 9. MCWP 3-41.1 Rear Area Operations
- 10. MCWP 4-11 Tactical-Level Logistics

# **SUPPORT REQUIREMENTS:**

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

1371-VERT-1002 1371-VERT-1003

**EQUIPMENT:** Engineer Material Handling Equipment, engineer earthmoving equipment, combat engineer tools, kits and utilities equipment.

MATERIAL: Map, Compass, Protractor, Overlay Sheets, Reconnaissance
Reports.

# MISCELLANEOUS:

# ADMINISTRATIVE INSTRUCTIONS: ORM

ESB-SURV-4004: Construct Entry Access Point (EAP)

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Construct Entry Access Point to prevent unauthorized personnel into military facilities.

**CONDITION:** Provided a mission, commander's intent, intelligence reports, task organization of personnel and equipment, Class IV supplies, and references.

**STANDARD:** To control and monitor access of vehicles, pedestrians, and materials onto military facilities in accordance with the concept of operations and commander's intent.

#### **EVENT COMPONENTS:**

- 1. Review mission.
- 2. Review force protection requirements.
- 3. Coordinate resources for project.
- 4. Coordinate security, as required.
- 5. Conduct site preparation and layout.
- 6. Construct survivability positions, as required.
- 7. Emplace prefabricated barrier(s), as required.
- 8. Construct wire obstacles, as required.
- 9. Construct expedient obstacles, as required.
- 10. Construct earth filled barrier/structure(s), as required.
- 11. Conduct earthmoving operations, as required.
- 12. Establish vehicle turn-around area, as required.
- 13. Establish pedestrian lanes, as required.
- 14. Construct personnel search area(s), as required.
- 15. Construct/emplace signs, as required.
- 16. Provide tactical power, as required
- 17. Submit required reports.

| ESB-HEOP-3002 | ESB-HEOP-3003 | ESB-RECN-3001 |
|---------------|---------------|---------------|
| ESB-SURV-3001 | ESB-SURV-3002 | ESB-SURV-3003 |
| ESB-SURV-3004 | ESB-SURV-3005 | ESB-UTIL-3001 |
| ESB-UTIL-3003 | ESB-UTIL-3004 |               |
|               |               |               |

#### RELATED EVENTS:

| 1302-CMOB-1001 | 1302-CMOB-1002 | 1302-CMOB-1003 |
|----------------|----------------|----------------|
| 1302-EOPS-1007 | 1302-EOPS-1009 | 1302-SURV-1001 |
| 1302-SURV-1002 | 1302-SURV-1003 | 1371-CMOB-1001 |
| 1371-CMOB-1002 | 1371-CMOB-1003 | 1371-CMOB-2001 |
| 1371-CMOB-2002 | 1371-CMOB-2003 | 1371-DEMO-1001 |
| 1371-EOPS-2006 | 1371-EOPS-2007 | 1371-EOPS-2010 |
| 1371-EOPS-2011 | 1371-EOPS-2012 | 1371-SURV-1001 |
| 1371-SURV-1001 | 1371-SURV-2001 | 1371-VERT-1001 |

1371-VERT-1002 1371-VERT-1004

#### **REFERENCES:**

- 1. MCWP 3-17.5 Combined Arms Obstacle Integration
- 2. MCRP 3-17.7L Explosives and Demolitions
- 3. MCRP 3-17A Engineering Field Data
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 8. MCWP 3-41.1 Rear Area Operations
- 9. MCWP 4-11 Tactical-Level Logistics

# SUPPORT REQUIREMENTS:

**EQUIPMENT:** Engineer Material Handling Equipment, Engineer Earthmoving equipment, Combat Engineer tools & kits.

<u>MATERIAL</u>: Map, Compass, Protractor, Overlay Sheets, Reconnaissance Reports.

#### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

**ESB-SURV-4005:** Construct earth filled barrier/structure

SUPPORTED MCT(S): MCT 6.1.4

**EVALUATION-CODED:** YES **SUSTAINMENT INTERVAL:** 12 months

**<u>DESCRIPTION</u>**: Construct earth filled barrier/structure in support of survivability of the force.

**CONDITION:** Provided a mission, commander's intent, reconnaissance reports, a task organization of personnel and equipment, and references.

**STANDARD:** That supports the mission requirements and concept of operations in accordance with the commander's intent.

# **EVENT COMPONENTS:**

- 1. Review mission.
- 2. Review engineer reconnaissance and survey.
- 3. Coordinate with supported unit for specific placement and requirements.
- 4. Construct/emplace barrier(s), as required.
- 5. Conduct earthmoving operations, as required.
- 6. Submit required reports.

# CHAINED EVENTS:

ESB-HEOP-3002 ESB-HEOP-3003 ESB-RECN-3001

# RELATED EVENTS:

1302-RECN-1001 1302-SURV-1001 1302-SURV-1002

| 1302-SURV-1003 | 1302-SURV-1004 | 1302-SURV-1005 |
|----------------|----------------|----------------|
| 1371-RECN-1001 | 1371-RECN-2001 | 1371-SURV-2001 |
| 1371-SURV-2002 |                |                |

#### **REFERENCES:**

- 1. MCRP 3-17.7I Earthmoving Operations
- 2. MCRP 3-17A Engineering Field Data
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.4 Engineer Reconnaissance
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 7. MCWP 4-11 Tactical-Level Logistics

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light

**EQUIPMENT:** Engineer Earthmoving equipment.

ESB-SURV-4006: Employ demolitions in support of survivability operations

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Employ demolitions in support of survivability operations to support the defense of friendly positions or clearance of natural/man-made obstacles for fields of fire to eliminate enemy cover and concealment.

**CONDITION:** Provided a mission order, task organized personnel and equipment, Class V, personal protective equipment (PPE), and references.

**STANDARD:** To enhance friendly survivability positions and fields of fire to defeat the enemy per the commander's intent and concept of operations.

# **EVENT COMPONENTS:**

- 1. Review the mission.
- 2. Coordinate with supporting unit(s).
- 3. Conduct final coordination with supported unit (location, requirements, security, etc.), as required.
- 4. Prepare personnel for mission requirements, as required.
- 5. Construct booby traps, as required.
- 6. Clear fields of fire, as required.
- 7. Place expedient explosive devices to support positions, as required.
- 8. Mark fortifications/explosive devices, as required.
- 9. Reconstitute force, as required.
- 10. Submit required reports.

#### CHAINED EVENTS:

| ESB-CMOB-3001 | ESB-CMOB-3002 | ESB-CMOB-3003 |
|---------------|---------------|---------------|
| ESB-HEOP-3002 | ESB-HEOP-3003 | ESB-MOBL-3004 |
| ESB-RECN-3003 |               |               |

| RELATED EVENTS: | : |
|-----------------|---|
|-----------------|---|

| 1302-DEMO-1001 | 1302-DEMO-1002 | 1302-SURV-1001 |
|----------------|----------------|----------------|
| 1302-SURV-1003 | 1302-SURV-1005 | 1371-CMOB-2003 |
| 1371-DEMO-1001 | 1371-DEMO-2002 | 1371-EOPS-1002 |
| 1371-EOPS-1003 | 1371-EOPS-1004 | 1371-SURV-1001 |
| 1371-SURV-2001 | 1371-SURV-2002 |                |

- 1. MCRP 3-17.2D Explosive Hazard Operations
- 2. MCRP 3-17.7L Explosives and Demolitions
- 3. MCRP 3-17A Engineering Field Data
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.6 Survivability

# SUPPORT REQUIREMENTS:

# **ORDNANCE:**

| DODIC                                     | <u>Quantity</u>            |
|-------------------------------------------|----------------------------|
| M023 Charge, Demolition Block M112 1-1/4  | 20 charges per squad       |
| M032 Charge, Demolition Block TNT 1-Pound | 20 charges per squad       |
| M130 Cap, Blasting Electric M6            | 10 blasting caps per squad |
| M131 Cap, Blasting Non-Electric M7        | 20 blasting caps per squad |
| M456 Cord, Detonating PETN Type I Class E | 2000 FT per squad          |
| M591 Dynamite, Military M1                | 20 charges per squad       |
| M670 Fuse, Blasting Time M700             | 500 FT per squad           |
| ML03 Firing Device, Demolition Multi-Purp | 10 detonators per squad    |
| MN08 Igniter, Time Blasting Fuse with Sho | 20 igniters per squad      |
| MN52 MK154 Mod 0                          | 10 detonators per squad    |

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

**EQUIPMENT:** Engineer Material Handling equipment, Combat engineer Demolitions kit

UNITS/PERSONNEL: Range Safety Officer, Corpsman

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

ESB-UTIL-4001: Provide tactical electrical power

SUPPORTED MCT(S): MCT 4.4.4

**EVALUATION-CODED:** YES **SUSTAINMENT INTERVAL:** 6 months

**<u>DESCRIPTION</u>**: Plan and coordinate power generation/electrical distribution in accordance with the unit's mission statement.

CONDITION: With a utilities plan, required equipment and personnel.

STANDARD: In accordance with the operational order and commander's intent.

### **EVENT COMPONENTS:**

- 1. Plan tactical power requirements.
- 2. Coordinate logistical support/requirements.
- 3. Establish generator site(s).
- 4. Establish power distribution.
- 5. Maintain utilities equipment, as required.
- 6. Submit required reports.

### CHAINED EVENTS:

| ESB-MANT-3001   | ESB-MANT-3003  | ESB-UTIL-3001  |
|-----------------|----------------|----------------|
| ESB-UTIL-3002   | ESB-UTIL-3003  | ESB-UTIL-3004  |
| ESB-UTIL-3005   | ESB-UTIL-3006  |                |
|                 |                |                |
| RELATED EVENTS: |                |                |
| 1169-ADMN-2002  | 1169-ADMN-2003 | 1169-ADMN-2021 |
| 1169-ADMN-2022  | 1169-XENG-2501 | 1169-XENG-2502 |
| 1169-XENG-2521  | 1169-XENG-2522 | 1169-XENG-2561 |
| 1169-XENG-2621  | 1169-XENG-2622 | 1169-XENG-2721 |
| 1169-XENG-2821  | 1169-XENG-2965 | 1169-XENG-2966 |
|                 |                |                |

#### REFERENCES:

- 1. FM 5-424 Theater of Operations Electrical Systems
- 2. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 3. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

**EQUIPMENT:** Utilities equipment, engineer Material Handling Equipment (MHE), Motor Transport equipment.

MATERIAL: POLs, HazMat Kits, spill containment kits, fuel.

ESB-UTIL-4002: Provide potable water

**SUPPORTED MCT(S):** MCT 4.4.3

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**<u>DESCRIPTION</u>**: Produce, store, and distribute potable water in order to meet mission requirements.

CONDITION: With a utilities plan, required equipment and personnel.

**STANDARD:** To meet planning requirements.

# **EVENT COMPONENTS:**

- 1. Perform Water Recon.
- 2. Establish Water Point.
- 3. Produce Potable Water.
- 4. Store Potable Water.
- 5. Establish Water Distribution Points.

### CHAINED EVENTS:

| ESB-UTIL-3007   | ESB-UTIL-3008  | ESB-UTIL-3009  |
|-----------------|----------------|----------------|
| RELATED EVENTS: |                |                |
| 1169-ADMN-2007  | 1169-ADMN-2021 | 1169-ADMN-2022 |
| 1169-ADMN-2051  | 1169-ADMN-2052 | 1169-ADMN-2075 |
| 1169-ADMN-2091  | 1169-XENG-2501 | 1169-XENG-2502 |
| 1169-XENG-2553  | 1169-XENG-2653 | 1169-XENG-2752 |
| 1169-XENG-2753  | 1169-XENG-2853 |                |

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 5. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 6. TB MED 577 Occupational and Environmental Health Sanitary Control and Surveillance of Field Water Supplies

# **SUPPORT REQUIREMENTS:**

RANGE/TRAINING AREA: Facility Code 17924 Water Supply Training Area

**EQUIPMENT:** Utilities equipment with supplemental kits (cartridges, NBC filters etc.), MHE, water testing kit, tool kits, PPE.

MATERIAL: Chemicals to purify raw water source.

<u>UNITS/PERSONNEL</u>: Note: Request Navy Medical Technician and Preventive Medicine Technician (PMT) as required.

ESB-UTIL-4003: Provide tactical hygiene support

SUPPORTED MCT(S): MCT 4.4.3

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Provide tactical hygiene support in order to provide sanitary shower, laundry, and field sanitation support to meet the commander's intent.

CONDITION: With a utilities plan, required equipment and personnel.

**STANDARD:** To meet planning requirements in accordance with commander's intent.

### **EVENT COMPONENTS:**

- 1. Establish shower facilities.
- 2. Establish laundry facilities.
- 3. Supervise field sanitation.

# CHAINED EVENTS:

| CHAINED HVERTE. |                |                |
|-----------------|----------------|----------------|
| ESB-MANT-3001   | ESB-MANT-3002  | ESB-MANT-3003  |
| ESB-MANT-3004   | ESB-MANT-3005  | ESB-UTIL-3009  |
| ESB-UTIL-3010   | ESB-UTIL-3011  | ESB-UTIL-3012  |
|                 |                |                |
| RELATED EVENTS: |                |                |
| 1169-ADMN-2007  | 1169-ADMN-2021 | 1169-ADMN-2022 |
| 1169-ADMN-2051  | 1169-ADMN-2052 | 1169-ADMN-2091 |
| 1169-XENG-2501  | 1169-XENG-2502 | 1169-XENG-2555 |
|                 | 1100 MENG 2502 | 1107 MHNO 2555 |

1169-XENG-2655 1169-XENG-2755 1169-XENG-2855

### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCRP 4-11.1D Field Hygiene and Sanitation

### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Utilities equipment, Material Handling equipment, PPE.

**MATERIAL:** Building materials (gravel, lime, pest insecticide, lumber etc.

ESB-VERT-4001: Conduct vertical construction

SUPPORTED MCT(S): MCT 4.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Conduct vertical construction to build or provide improvements to existing structures or construction of base camps, command posts, and maintenance facilities for use by the MAGTF.

<u>CONDITION</u>: Given a mission, commander's intent, tactical situation, task organized equipment and personnel, design specifications, construction materials and appropriate references.

**STANDARD:** To build and/or improve facilities that meet the minimum requirements listed in the design specifications in accordance with the commander's intent and concept of operations.

#### **EVENT COMPONENTS:**

- 1. Plan vertical construction.
- 2. Conduct engineer reconnaissance.
- 3. Conduct survey as required.
- 4. Coordinate resources for project.
- 5. Conduct site preparation.
- 6. Repair facility as required.

- 7. Erect prefabricated structure, as required.
- 8. Construct wood frame structure, as required.
- 9. Construct timber structure, as required.
- 10. Construct expedient drainage structure, as required.
- 11. Wire structure for electricity as required.
- 12. Submit required reports.

## PREREQUISITE EVENTS: ESB-RECN-5001

# CHAINED EVENTS:

| ESB-HEOP-3001 | ESB-HEOP-3002 | ESB-HEOP-3003 |
|---------------|---------------|---------------|
| ESB-MOBL-3004 | ESB-RECN-3001 | ESB-UTIL-3001 |
| ESB-UTIL-3003 |               |               |

# RELATED EVENTS:

| KHIMIDD HVBHID. |                |                |
|-----------------|----------------|----------------|
| 1302-PLAN-1002  | 1302-RECN-1001 | 1302-VERT-1001 |
| 1316-XENG-1001  | 1316-XENG-1006 | 1361-DRAF-1001 |
| 1361-DRAF-1002  | 1361-DRAF-1003 | 1361-SRVY-1004 |
| 1361-SRVY-1008  | 1361-SRVY-2003 | 1361-SRVY-2004 |
| 1361-SRVY-2005  | 1371-EOPS-2006 | 1371-EOPS-2007 |
| 1371-EOPS-2008  | 1371-EOPS-2010 | 1371-EOPS-2011 |
| 1371-EOPS-2012  | 1371-HORZ-2002 | 1371-HORZ-2003 |
| 1371-RECN-2001  | 1371-VERT-2001 | 1371-VERT-2002 |
|                 |                |                |

### **REFERENCES:**

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. GTA 5-7-13 Bridge Classification Booklet
- 3. GTA 5-7-6 Bridge Design Card
- 4. JP 3-15 Barriers, Obstacles, and Mine Warfare for Joint Operations
- 5. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 6. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 7. MCRP 3-17.7C Carpentry
- 8. MCRP 3-17.7D Concrete and Masonry
- 9. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 10. MCRP 3-17.7F Project Management
- 11. MCRP 3-17.7I Earthmoving Operations
- 12. MCRP 3-17.7K Theater of Operations Electrical Systems
- 13. MCRP 3-17.7M Construction Estimating
- 14. MCRP 3-17.7N Base Camps
- 15. MCRP 3-17A Engineering Field Data
- 16. MCRP 4-11.1D Field Hygiene and Sanitation
- 17. MCWP 3-17 Engineering Operations
- 18. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 19. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 20. MCWP 4-11 Tactical-Level Logistics
- 21. TM 5-232 Elements of Construction Surveying

# SUPPORT REQUIREMENTS:

### RANGE/TRAINING AREA:

Facility Code 17330 Covered Training Area Facility Code 17413 Field Training Area

#### EQUIPMENT:

Engineer earthmoving equipment, Combat engineer tools & kits, and Material Handling Equipment.

ESB-VERT-4002: Construct wood frame structure

SUPPORTED MCT(S): MCT 4.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Construct wood frame structures for use in all operations conducted to include but not limited to strong backs, sheds, facilities, sea huts, etc., or may be specified in mission directives.

**CONDITION:** Given a mission, commanders intent, tactical situation, task organized equipment and personnel, construction plans, design specifications, construction materials and references.

**STANDARD:** To meet the requirements listed in the design specifications in accordance with commander's intent.

### **EVENT COMPONENTS:**

- 1. Review construction plans and schematics.
- 2. Review engineer reconnaissance and survey.
- 3. Acquire resources needed for project.
- 4. Conduct site preparation, as required.
- 5. Operate/employ engineer equipment and kits.
- 6. Construct/install footers, as required.
- 7. Construct/install flooring structure, as required
- 8. Construct/install wall structure(s), as required.
- 9. Construct/install roof structure, as required.
- 10. Construct/install doors, as required.
- 11. Construct/install windows, as required.
- 12. Finish interior, as required.
- 13. Finish exterior, as required.
- 14. Submit required reports.

PREREQUISITE EVENTS: ESB-RECN-5001

### <u>CHAINED EVENTS</u>: ESB-HEOP-3001

| ESB-HEOP-3001   | ESB-HEOP-3002  | ESB-HEOP-3003  |
|-----------------|----------------|----------------|
| ESB-MOBL-3004   | ESB-RECN-3001  | ESB-UTIL-3001  |
|                 |                |                |
| RELATED EVENTS: |                |                |
| 1302-EOPS-1007  | 1302-EOPS-1009 | 1302-RECN-1001 |
| 1302-VERT-1001  | 1371-EOPS-1002 | 1371-EOPS-1003 |
| 1271_FODG_100/  | 1371_FODG_2006 | 1271_FODG_2007 |

| 1371-EOPS-1004 | 1371-EOPS-2006 | 1371-EOPS-2007 |
|----------------|----------------|----------------|
| 1371-EOPS-2008 | 1371-EOPS-2010 | 1371-EOPS-2011 |
| 1371-EOPS-2012 | 1371-HORZ-2002 | 1371-HORZ-2003 |
| 1371-MANT-1001 | 1371-VERT-1001 | 1371-VERT-1002 |
| 1371-VERT-2001 | 1371-VERT-2002 |                |

# REFERENCES:

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7F Project Management
- 3. MCRP 3-17.7M Construction Estimating
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-17.7 General Engineering
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)

### SUPPORT REQUIREMENTS:

### RANGE/TRAINING AREA:

Facility Code 17330 Covered Training Area Facility Code 17413 Field Training Area

**EQUIPMENT:** Engineer Material Handling equipment, Combat Engineer Tools and

Kits, PPE.

MATERIAL: Class IV

OTHER SUPPORT REQUIREMENTS: Electrical and fuel requirements.

ESB-VERT-4003: Construct concrete block structure

SUPPORTED MCT(S): MCT 4.4.2

**EVALUATION-CODED:** YES **SUSTAINMENT INTERVAL:** 6 months

<u>DESCRIPTION</u>: To conduct concrete block and other masonry construction as directed. Task emphasizes type of material, placement, finishing, and equipment used to build structures and foundations. This task also implies use of wood frame components for roofs and opening enclosures (doors, windows, etc.).

<u>CONDITION</u>: Given a mission, commander's intent, tactical situation, task organized equipment and personnel, design specifications, construction materials and appropriate references.

**STANDARD:** That meets the requirements listed in the design specifications in accordance with the commander's intent and concept of operations.

# **EVENT COMPONENTS:**

- 1. Review construction plans and schematics.
- 2. Review engineer reconnaissance and survey.
- 3. Acquire resources needed for project.
- 4. Conduct site preparation, as required.
- 5. Operate/employ engineer equipment and kits.
- 6. Construct/install foundation, as required.
- 7. Construct/install wall structure(s), as required.
- 8. Place opening(s), as required.
- 9. Construct/place roof, as required
- 10. Construct/install doors, as required.
- 11. Construct/install windows, as required.
- 12. Submit required reports.

- 13. Construct/install windows, as required.
- 14. Submit required reports.

PREREQUISITE EVENTS: ESB-RECN-5001

| ESB-HEOP-3001 | ESB-HEOP-3002 | ESB-HEOP-3003 |
|---------------|---------------|---------------|
| ESB-RECN-3001 | ESB-IITTI3001 |               |

### RELATED EVENTS:

| 1302-EOPS-1001 | 1302-EOPS-1002 | 1302-EOPS-1003 |
|----------------|----------------|----------------|
| 1302-EOPS-1007 | 1302-EOPS-1009 | 1302-RECN-1001 |
| 1302-VERT-1001 | 1316-XENG-1001 | 1316-XENG-1006 |
| 1371-EOPS-1001 | 1371-EOPS-1004 | 1371-EOPS-2005 |
| 1371-EOPS-2006 | 1371-EOPS-2007 | 1371-EOPS-2010 |
| 1371-EOPS-2011 | 1371-EOPS-2012 | 1371-HORZ-1001 |
| 1371-HORZ-1002 | 1371-HORZ-1003 | 1371-HORZ-2004 |
| 1371-HORZ-2005 | 1371-MANT-1001 | 1371-RECN-2001 |
| 1371-VERT-1003 |                |                |

### REFERENCES:

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7D Concrete and Masonry
- 3. MCRP 3-17.7F Project Management
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.8 Combined Arms Mobility Operations
- 8. MCWP 3-33 Military Operations Other Than War (MOOTW)

### SUPPORT REQUIREMENTS:

# RANGE/TRAINING AREA:

Facility Code 17330 Covered Training Area Facility Code 17413 Field Training Area

EQUIPMENT: Concrete and Masonry kit, concrete mixer, Pioneer kit, PPE.

**MATERIAL:** Portland cement, coarse and fine aggregate, ad-mixture.

OTHER SUPPORT REQUIREMENTS: Electrical and fuel requirements.

ESB-VERT-4004: Construct timber structure

SUPPORTED MCT(S): MCT 4.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Conduct construction of timber structures for survivability of personnel and equipment. Structures consist of but not limited to bunkers, shelters, overhead cover, guard posts, crew-serve weapons positions, and individual fighting positions.

**CONDITION:** Given a mission, commander's intent, tactical situations, task organized equipment and personnel, design specifications, construction materials and references.

**STANDARD:** To meet the survivability requirements in accordance with the commander's intent and concept of operations.

### **EVENT COMPONENTS:**

- 1. Review construction plans and schematics.
- 2. Review engineer reconnaissance and survey.
- 3. Acquire resources needed for project.
- 4. Conduct site preparation, as required.
- 5. Operate/employ engineer equipment and kits.
- 6. Construct/prefabricate structures, as required.
- 7. Emplace structures, as required.
- 8. Construct/install wall structure(s), as required.
- 9. Construct/install roof structure/components, as required.
- 10. Construct/install doors, as required.
- 11. Construct/install portholes, as required.
- 12. Sandbag structure, as required.
- 13. Camouflage as required.
- 14. Install grenade sumps, as required.
- 15. Submit required reports.

### **PREREQUISITE EVENTS:** ESB-RECN-5001

| ESB-HEOP-3003  | ESB-SURV-3002                                                                                                                                                |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ESB-SURV-3004  | ESB-SURV-3005                                                                                                                                                |
| ESB-SURV-3007  | ESB-SURV-3008                                                                                                                                                |
|                |                                                                                                                                                              |
|                |                                                                                                                                                              |
|                |                                                                                                                                                              |
| 1302-EOPS-1009 | 1302-RECN-1001                                                                                                                                               |
| 1302-SURV-1002 | 1302-VERT-1001                                                                                                                                               |
| 1371-EOPS-1003 | 1371-EOPS-1004                                                                                                                                               |
| 1371-EOPS-2007 | 1371-EOPS-2008                                                                                                                                               |
| 1371-EOPS-2011 | 1371-EOPS-2012                                                                                                                                               |
| 1371-RECN-2001 | 1371-SURV-1001                                                                                                                                               |
| 1371-SURV-2002 | 1371-VERT-1001                                                                                                                                               |
| 1371-VERT-1004 | 1371-VERT-1005                                                                                                                                               |
|                | ESB-SURV-3004<br>ESB-SURV-3007<br>1302-EOPS-1009<br>1302-SURV-1002<br>1371-EOPS-1003<br>1371-EOPS-2007<br>1371-EOPS-2011<br>1371-RECN-2001<br>1371-SURV-2002 |

#### REFERENCES:

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7F Project Management
- 3. MCRP 3-17.7M Construction Estimating
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-17.7 General Engineering
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)

### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light

Forces

EQUIPMENT: Engineer Material Handling equipment, Combat Engineer tools and

Kits

ESB-VERT-4005: Repair existing structures

**SUPPORTED MCT(S): MCT 4.4.2** 

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Engineers will conduct this task for any type of structure (wood, concrete, steel, bridges, etc.) or facilities that have been damaged/flawed or incorrect per design specifications.

**CONDITION:** Given a mission, commander's intent, tactical situation, task organized equipment and personnel, structure/facility in need of repair, construction materials and references.

**STANDARD:** To meet the original design requirements/specifications to restore structure or facilities and in accordance with the commander's intent.

### **EVENT COMPONENTS:**

- 1. Review construction plans and schematics, as required.
- 2. Review engineer reconnaissance and survey, as required.
- 3. Acquire resources needed for project.
- 4. Conduct site preparation, as required.
- 5. Operate/employ engineer equipment and kits.
- 6. Repair/replace structural components, as required.
- 7. Repair/replace electrical, as required.
- 8. Repair bridge abutments, as required.
- 9. Submit required reports.

**PREREQUISITE EVENTS:** ESB-RECN-5001

# <u>CHAINED EVENTS</u>: ESB-HEOP-3002

| RELATED EVENTS: |                |                |
|-----------------|----------------|----------------|
| 1302-EOPS-1009  | 1302-RECN-1001 | 1302-VERT-1001 |
| 1316-XENG-1001  | 1316-XENG-1006 | 1371-EOPS-2007 |
| 1371-EOPS-2010  | 1371-EOPS-2011 | 1371-RECN-1001 |
| 1371-VERT-1001  | 1371-VERT-1002 | 1371-VERT-1003 |
| 1371-VERT-1004  | 1371-VERT-1005 |                |

ESB-HEOP-3003

ESB-UTIL-3001

### **REFERENCES:**

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 3. MCRP 3-17.7F Project Management
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-33 Military Operations Other Than War (MOOTW)

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Engineer Material Handling equipment, Combat Engineer tools and

kits

ESB-VERT-4006: Construct concrete structure

SUPPORTED MCT(S): MCT 4.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Construction of concrete structures for use in all operations conducted to include but not limited to wing walls, buildings, foundations, retaining walls, etc., or may be specified in mission directives in support of the MAGTF.

<u>CONDITION</u>: Given a mission, commander's intent, tactical situation, task organized equipment and personnel, design specifications, construction materials and appropriate references.

**STANDARD:** To meet the requirements listed in the design specifications, in accordance with the commander's intent and concept of operations.

#### **EVENT COMPONENTS:**

- 1. Review construction plans and schematics.
- 2. Review engineer reconnaissance and survey.
- 3. Acquire resources needed for project.
- 4. Conduct site preparation, as required.
- 5. Operate/employ engineer equipment and kits.
- 6. Construct/install form work for footers, as required.
- 7. Construct/install form work for walls, as required.
- 8. Place reinforcement material, as required.
- 9. Place concrete for footer(s), as required.
- 10. Place concrete for wall(s), as required.
- 11. Place concrete for slab(s), as required.
- 12. Consolidate concrete, as required.
- 13. Finish concrete, as required.
- 14. Remove forms, as required.
- 15. Submit required reports.

PREREQUISITE EVENTS: ESB-RECN-5001

### CHAINED EVENTS:

| ESB-HEOP-3001 | ESB-HEOP-3002 | ESB-HEOP-3003 |
|---------------|---------------|---------------|
| ESB-RECN-3001 | ESB-UTIL-3001 |               |
|               |               |               |

# RELATED EVENTS:

| 1302-EOPS-1001 | 1302-EOPS-1002 | 1302-EOPS-1003 |
|----------------|----------------|----------------|
| 1302-EOPS-1007 | 1302-EOPS-1009 | 1302-RECN-1001 |
| 1302-SURV-1001 | 1302-SURV-1005 | 1302-VERT-1001 |

| 1316-XENG-1001 | 1316-XENG-1006 | 1371-EOPS-1001 |
|----------------|----------------|----------------|
| 1371-EOPS-1004 | 1371-EOPS-2005 | 1371-EOPS-2006 |
| 1371-EOPS-2007 | 1371-EOPS-2010 | 1371-EOPS-2011 |
| 1371-EOPS-2012 | 1371-HORZ-1001 | 1371-HORZ-1002 |
| 1371-HORZ-1003 | 1371-HORZ-2004 | 1371-HORZ-2005 |
| 1371-MANT-1001 | 1371-RECN-2001 | 1371-SURV-1001 |
| 1371-SURV-2001 | 1371-VERT-1003 |                |
|                |                |                |

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7D Concrete and Masonry
- 3. MCRP 3-17.7F Project Management
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-33 Military Operations Other Than War (MOOTW)

### SUPPORT REQUIREMENTS:

ESB-VERT-4007: Construct manufactured steel structure

SUPPORTED MCT(S): MCT 4.4.2

**EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months** 

**DESCRIPTION:** Any manufactured steel structures to include but not limited to K-Spans, Butler Buildings, Pre-engineered buildings, Framed Shelters w/vinyl covers, etc.

<u>CONDITION</u>: Given a mission, commander's intent, tactical situation, task organized equipment and personnel, steel structure components, design specifications, construction materials and appropriate references.

**STANDARD:** That meets the requirements listed in the manufacturer specifications, in accordance with the commander's intent and concept of operations.

# **EVENT COMPONENTS:**

- 1. Review construction plans and schematics.
- 2. Review engineer reconnaissance and survey.
- 3. Acquire resources needed for project.
- 4. Conduct site preparation as required.
- 5. Operate/employ engineer equipment and kits.
- 6. Construct/install foundation as required.
- 7. Construct/install flooring as required
- 8. Construct/install structure(s) as required.
- 9. Construct/install doors as required.
- 10. Construct/install windows as required.
- 11. Submit required reports.

### PREREQUISITE EVENTS:

| 1302-EOPS-1001 | 1302-EOPS-1002 | 1302-EOPS-1003 |
|----------------|----------------|----------------|
| 1302-EOPS-1007 | 1302-EOPS-1009 | 1302-SURV-1001 |
| 1302-SURV-1005 | 1302-VERT-1001 | 1316-XENG-1001 |
| 1316-XENG-1006 | 1371-EOPS-1001 | 1371-EOPS-1004 |
| 1371-EOPS-2006 | 1371-EOPS-2007 | 1371-EOPS-2010 |
| 1371-EOPS-2011 | 1371-EOPS-2012 | 1371-HORZ-1001 |
| 1371-HORZ-1002 | 1371-HORZ-1003 | 1371-HORZ-2004 |
| 1371-HORZ-2005 | 1371-MANT-1001 | 1371-RECN-2001 |
| 1371-SURV-1001 | 1371-VERT-1001 | 1371-VERT-1002 |
| 1371-VERT-1003 | 1371-VERT-1004 |                |

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. JP 3-15 Barriers, Obstacles, and Mine Warfare for Joint Operations
- 3. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 4. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 5. MCRP 3-17.7C Carpentry
- 6. MCRP 3-17.7D Concrete and Masonry
- 7. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 8. MCRP 3-17.7F Project Management
- 9. MCRP 3-17.7I Earthmoving Operations
- 10. MCRP 3-17.7K Theater of Operations Electrical Systems
- 11. MCRP 3-17.7L Explosives and Demolitions
- 12. MCRP 3-17A Engineering Field Data
- 13. MCRP 4-11.1D Field Hygiene and Sanitation
- 14. MCWP 3-17 Engineering Operations
- 15. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 16. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 17. MCWP 3-41.1 Rear Area Operations
- 18. MCWP 4-1 Logistics Operations
- 19. MCWP 4-11 Tactical-Level Logistics
- 20. TM 5-232 Elements of Construction Surveying

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

**EQUIPMENT:** Engineer Earthmoving equipment, Material Handling equipment, Combat engineer equipment, Utilities equipment

### 6007. 3000-LEVEL EVENTS

**ESB-CMOB-3001:** Employ explosive obstacles

SUPPORTED MCT(S): MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Create explosive obstacles to turn, block, fix, or disrupt enemy movement or maneuver of personnel or equipment.

**CONDITION:** Given an operations order, personnel, demolitions material, engineer equipment, and personal protective equipment.

**STANDARD:** To turn, block, fix, or disrupt the enemy in accordance with the concept of operations and commander's intent.

### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Prepare site.
- 3. Build the explosive obstacle (if required).
- 4. Emplace explosive obstacle.
- 5. Recover as required.
- 6. Submit required reports.

### RELATED EVENTS:

| TELLITED EVENIENT. |                |                |
|--------------------|----------------|----------------|
| 1302-CMOB-1001     | 1302-CMOB-1002 | 1310-ADMN-2002 |
| 1310-ADMN-2006     | 1310-ADMN-2009 | 1310-ADMN-2010 |
| 1310-HEOP-2001     | 1310-MANT-2002 | 1345-ADMN-1002 |
| 1345-ADMN-2002     | 1345-HEOP-1003 | 1345-HEOP-1004 |
| 1345-HEOP-1005     | 1345-HEOP-1006 | 1345-HEOP-2009 |
| 1345-MANT-1001     | 1349-ADMN-2002 | 1349-ADMN-2006 |
| 1349-ADMN-2009     | 1349-ADMN-2010 | 1349-HEOP-2001 |
| 1349-MANT-2002     | 1371-CMOB-1003 | 1371-CMOB-2001 |
| 1371-CMOB-2003     | 1371-DEMO-1002 |                |

### SUPPORT REQUIREMENTS:

### ORDNANCE:

| DODIC                                     | Quantity               |
|-------------------------------------------|------------------------|
| J007 Mine, Antipersonnel M18A 1 with Non- | 2 mines per Team       |
| L598 Simulator, Explosive Booby Trap Flas | 10 Simulator per Team  |
| M023 Charge, Demolition Block M112 1-1/4  | 20 charges per Team    |
| M032 Charge, Demolition Block TNT 1-Pound | 6 charges per Team     |
| M327 Coupling Base, Firing Device with Pr | 10 primers per Team    |
| M456 Cord, Detonating PETN Type I Class E | 1000 FT per Team       |
| ML03 Firing Device, Demolition Multi-Purp | 10 detonators per Team |

# RANGE/TRAINING AREA:

Facility Code 17830 Light Demolition Range Facility Code 17905 Mine Warfare Area

**EQUIPMENT:** PPE, Combat engineer equipment, tools and kits

MATERIAL: Class IV material.

UNITS/PERSONNEL: Range Safety officer, Corpsman

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

ESB-CMOB-3002: Build non-explosive obstacles

SUPPORTED MCT(S): MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 3 months

<u>DESCRIPTION</u>: Build non-explosive obstacles to, block, fix, or disrupt the enemy. Typical examples are: Wire, Tank ditches, Log cribs, Steel H beam post obstacles, falling or tumble blocks, Dragon's teeth, hedgehogs, tetrahedrons and non-explosive abatis.

<u>CONDITION</u>: Given a mission, commander's intent, location to emplace the obstacle, task organized personnel and equipment, and resources (Class IV, V, natural terrain, battlefield materials, etc.).

**STANDARD:** To, block, fix, or disrupt the enemy in accordance with the commander's intent and concept of operations.

### **EVENT COMPONENTS:**

- 1. Review mission and schematics.
- 2. Determine actual work sequence.
- 3. Coordinate logistical requirements.
- 4. Coordinate overwatch/security for obstacle construction.
- 5. Move to obstacle site.
- 6. Tie obstacles into natural/existing obstacles, as required.
- 7. Construct/place mobility obstacles (barriers, hedgehogs, etc.) as required.
- 8. Construct wire obstacles, as required.
- 9. Construct/place field expedient obstacles (logs, abatis, rubble, etc.), as required.
- 10. Construct/create phony obstacles, as required.
- 11. Construct tank ditches, as required.
- 12. Submit required reports.

#### RELATED EVENTS:

| 1302-CMOB-1002 | 1310-ADMN-2009                                                                                                                                                 |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1310-HEOP-2001 | 1310-MANT-2002                                                                                                                                                 |
| 1316-ADMN-1002 | 1316-ADMN-2001                                                                                                                                                 |
| 1316-XENG-1001 | 1316-XENG-1006                                                                                                                                                 |
| 1345-ADMN-2002 | 1345-HEOP-1003                                                                                                                                                 |
| 1345-HEOP-1005 | 1345-HEOP-1006                                                                                                                                                 |
| 1345-HEOP-2012 | 1345-MANT-1001                                                                                                                                                 |
| 1345-MANT-2003 | 1345-MANT-2004                                                                                                                                                 |
| 1349-ADMN-2004 | 1349-ADMN-2009                                                                                                                                                 |
| 1349-ADMN-2010 | 1349-HEOP-2001                                                                                                                                                 |
| 1371-CMOB-1001 | 1371-CMOB-2001                                                                                                                                                 |
|                |                                                                                                                                                                |
|                | 1310-HEOP-2001<br>1316-ADMN-1002<br>1316-XENG-1001<br>1345-ADMN-2002<br>1345-HEOP-1005<br>1345-HEOP-2012<br>1345-MANT-2003<br>1349-ADMN-2004<br>1349-ADMN-2010 |

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. UNIT SOP Unit's Standing Operating Procedures
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data

- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 8. MCWP 3-1 Ground Combat Operations
- 9. MCWP 3-13.2 MINE WARFARE
- 10. MCWP 3-17 Engineering Operations
- 11. MCWP 3-17.1 Combined Arms Gap-Crossing Operations
- 12. MCWP 3-17.4 Engineer Reconnaissance
- 13. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 14. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

### SUPPORT REQUIREMENTS:

# ORDNANCE:

| DODIC                                     | <u>Quantity</u>          |
|-------------------------------------------|--------------------------|
| L495 Flare, Surface Trip M49 Series       | 2 flares per Team        |
| M032 Charge, Demolition Block TNT 1-Pound | 4 charges per Team       |
| M039 Charge, Demolition Cratering 40-Poun | 4 charges per Team       |
| M130 Cap, Blasting Electric M6            | 6 blasting caps per Team |
| M131 Cap, Blasting Non-Electric M7        | 6 blasting caps per Team |
| M327 Coupling Base, Firing Device with Pr | 6 primers per Team       |
| M421 Charge, Demolition Shaped M3 Series  | 4 charges per Team       |
| M456 Cord, Detonating PETN Type I Class E | 250 FT per Team          |
| M591 Dynamite, Military M1                | 6 charges per Team       |
| M670 Fuse, Blasting Time M700             | 125 FT per Team          |
| M757 Charge, Assembly Demolition M183 Com | 2 cases per Team         |
| ML03 Firing Device, Demolition Multi-Purp | 4 detonators per Team    |
| MN08 Igniter, Time Blasting Fuse with Sho | 6 igniters per Team      |
| MN14 Firing Device, Dual Mode MK54        | 4 detonators per Team    |
| MN52 MK154 Mod 0                          | 10 igniters per Team     |
|                                           |                          |

### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

**EQUIPMENT:** Combat engineer equipment, tools and kits, MHE, Earthmoving equipment

# MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

**ESB-CMOB-3003:** Construct demolition obstacles

**SUPPORTED MCT(S):** MCT 1.4.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 3 months

**<u>DESCRIPTION</u>**: Employ expedient anti-personnel devices and explosive hazards as explosive obstacles.

**CONDITION:** Given an operations order, personnel, demolitions material, engineer equipment, and while wearing fighting load.

**STANDARD:** To support the defensive concept of operations.

### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Prepare site.
- 3. Build the explosive obstacle.
- 4. Submit required reports.

### **RELATED EVENTS:**

| 1302-CMOB-1001 | 1302-CMOB-1003 | 1302-DEMO-1001 |
|----------------|----------------|----------------|
| 1302-DEMO-1002 | 1371-CMOB-1003 | 1371-DEMO-1001 |

### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data
- 6. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 7. MCWP 3-13.2 MINE WARFARE
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 11. Unit SOP Unit's Standing Operating Procedures

### SUPPORT REQUIREMENTS:

#### **ORDNANCE:**

| DODIC                                     | Quantity                 |
|-------------------------------------------|--------------------------|
| M023 Charge, Demolition Block M112 1-1/4  | 10 charges per Team      |
| M030 Charge, Demolition Block TNT 1/4-Pou | 4 charges per Team       |
| M130 Cap, Blasting Electric M6            | 4 blasting caps per Team |
| M131 Cap, Blasting Non-Electric M7        | 4 blasting caps per Team |
| M456 Cord, Detonating PETN Type I Class E | 1000 FT per Team         |
| ML03 Firing Device, Demolition Multi-Purp | 4 detonators per Team    |

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

**EQUIPMENT: PPE** 

UNITS/PERSONNEL: Range Safety officer, Corpsman

#### **MISCELLANEOUS:**

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

ESB-DEMO-3001: Destroy captured arms and ammunition with demolitions

SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Destroy captured arms and ammunition with demolitions to ensure destruction. Examples include: confined gaseous, liquid, and solid propellants; explosives; pyrotechnics; chemical and riot-control agents; smokes and incendiaries (including bulk explosives); chemical warfare agents; chemical munitions; rockets; guided and ballistic missiles; bombs; warheads; mortar rounds; artillery ammunition; small arms ammunition; grenades; mines; torpedoes; depth charges; cluster munitions and dispensers; demolition charges; and devices and components of the above.

**CONDITION:** Given a tactical situation, demolition target, demolitions, task organized personnel, demolition tools, equipment, and references.

**STANDARD:** To ensure destruction of target per commander's intent and mission requirements.

### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Coordinate with supporting unit (EOD) as required.
- 3. Prepare equipment as required.
- 4. Move to demolition site.
- 5. Prepare charge for demolition.
- 6. Set charge.
- 7. Establish safety zone.
- 8. Detonate explosive.
- 9. Verify destruction of arms and ammunition.
- 10. Submit required reports.

### RELATED EVENTS:

1302-DEMO-1004 1302-MOBL-1003 1371-MOBL-2023

# REFERENCES:

- 1. GTA 5-10-33 Demolition Card
- 2. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 3-17 Engineering Operations

# SUPPORT REQUIREMENTS:

### ORDNANCE:

| DODIC                                     | Quantity                 |
|-------------------------------------------|--------------------------|
| M028 Demolition Kit, Bangalore Torpedo M1 | 1 cases per Team         |
| M032 Charge, Demolition Block TNT 1-Pound | 3 charges per Team       |
| M039 Charge, Demolition Cratering 40-Poun | 3 charges per Team       |
| M130 Cap, Blasting Electric M6            | 5 blasting caps per Team |
| M131 Cap, Blasting Non-Electric M7        | 5 blasting caps per Team |
| M420 Charge, Demolition Shaped M2 Series  | 1 charges per Team       |

M456 Cord, Detonating PETN Type I Class E 250 FT per Team M591 Dynamite, Military M1 6 charges per Team M670 Fuse, Blasting Time M700 150 FT per Team M757 Charge, Assembly Demolition M183 Com 1 cases per Team M982 Charge, Demolition Sheet 0.161 Inch 6 FT per Team MM30 Charge, Flexible 20 Gram PETN MK140 4 charges per Team MM44 Charge, Demolition Flexible Linear S 4 charges per Team MM45- Change. Demo Flex Linear Shaped 125 1 charges per Team MM47 Charge, Demolition Flexible Linear S 1 charges per Team MM48 Charge, Demolition Flexible Linear S 1 charges per Team MN08 Igniter, Time Blasting Fuse with Sho 15 igniters per Team

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

**EQUIPMENT:** PPE

UNITS/PERSONNEL: Range Safety Officer, Corpsman

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

**ESB-DEMO-3002:** Destroy bridge with demolitions

SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Destroy bridge with demolitions which results in either a gap that exceeds the enemy's assault bridging capability by 5 meters, or that leaves demolished components which are unable to provide sufficient bearing capacity for enemy assault breaching assets.

**CONDITION:** Given a tactical situation, demolition target, demolitions, task organized personnel, demolition tools, equipment, and references.

 $\underline{\mathtt{STANDARD}}\colon$  To ensure destruction of target per commander's intent and mission requirements.

# **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Coordinate with supporting unit (EOD) as required.
- 3. Prepare equipment as required.
- 4. Move to demolition site.
- 5. Prepare charge for demolition.
- 6. Set charge.
- 7. Establish safety zone.
- 8. Detonate explosive.
- 9. Verify destruction of bridge.

10. Submit required reports.

### RELATED EVENTS:

 1302-DEMO-1001
 1302-DEMO-1002
 1302-MOBL-1007

 1371-CMOB-2004
 1371-DEMO-1001
 1371-DEMO-2015

### **REFERENCES:**

- 1. GTA 5-10-33 Demolition Card
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations

### SUPPORT REQUIREMENTS:

### ORDNANCE:

| DODIC                                     | <u>Quantity</u>          |
|-------------------------------------------|--------------------------|
| M028 Demolition Kit, Bangalore Torpedo M1 | 1 cases per Team         |
| M032 Charge, Demolition Block TNT 1-Pound | 3 charges per Team       |
| M039 Charge, Demolition Cratering 40-Poun | 3 charges per Team       |
| M130 Cap, Blasting Electric M6            | 5 blasting caps per Team |
| M131 Cap, Blasting Non-Electric M7        | 5 blasting caps per Team |
| M420 Charge, Demolition Shaped M2 Series  | 1 charges per Team       |
| M456 Cord, Detonating PETN Type I Class E | 250 FT per Team          |
| M591 Dynamite, Military M1                | 6 charges per Team       |
| M670 Fuse, Blasting Time M700             | 150 FT per Team          |
| M757 Charge, Assembly Demolition M183 Com | 1 cases per Team         |
| M982 Charge, Demolition Sheet 0.161 Inch  | 6 FT per Team            |
| MM30 Charge, Flexible 20 Gram PETN MK140  | 4 charges per Team       |
| MM44 Charge, Demolition Flexible Linear S | 1 charges per Team       |
| MM45- Change. Demo Flex Linear Shaped 125 | 1 charges per Team       |
| MM47 Charge, Demolition Flexible Linear S | 1 charges per Team       |
| MM48 Charge, Demolition Flexible Linear S | 1 charges per Team       |
| MN08 Igniter, Time Blasting Fuse with Sho | 15 igniters per Team     |

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

**EQUIPMENT:** PPE

UNITS/PERSONNEL: Range Safety officer, Corpsman

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

**ESB-DEMO-3003:** Destroy tunnel with demolitions

# SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Destroy tunnel with demolitions to ensure destruction of the tunnel.

**CONDITION:** Given a tactical situation, demolition target, demolitions, task organized personnel, demolition tools, equipment, and references.

**STANDARD:** To ensure destruction of target per commander's intent and mission requirements.

### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Coordinate with supporting unit (EOD) as required.
- 3. Prepare equipment as required.
- 4. Move to demolition site.
- 5. Prepare charge for demolition.
- 6. Set charge.
- 7. Establish safety zone.
- 8. Detonate explosive.
- 9. Verify destruction of tunnel.
- 10. Submit required reports.

### RELATED EVENTS:

| 1302-DEMO-1001 | 1302-DEMO-1002 | 1302-DEMO-1003 |
|----------------|----------------|----------------|
| 1302-MOBL-1007 | 1371-DEMO-1001 | 1371-DEMO-2001 |
| 1371-DEMO-2002 |                |                |

# REFERENCES:

- 1. GTA 5-10-33 Demolition Card
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations

# SUPPORT REQUIREMENTS:

# **ORDNANCE:**

| DODIC                                     | Quantity                 |
|-------------------------------------------|--------------------------|
| M028 Demolition Kit, Bangalore Torpedo M1 | 1 cases per Team         |
| M032 Charge, Demolition Block TNT 1-Pound | 3 charges per Team       |
| M039 Charge, Demolition Cratering 40-Poun | 3 charges per Team       |
| M130 Cap, Blasting Electric M6            | 5 blasting caps per Team |
| M131 Cap, Blasting Non-Electric M7        | 5 blasting caps per Team |
| M420 Charge, Demolition Shaped M2 Series  | 1 charges per Team       |
| M456 Cord, Detonating PETN Type I Class E | 250 FT per Team          |
| M591 Dynamite, Military M1                | 6 charges per Team       |
| M670 Fuse, Blasting Time M700             | 150 FT per Team          |
| M757 Charge, Assembly Demolition M183 Com | 1 cases per Team         |
| M982 Charge, Demolition Sheet 0.161 Inch  | 6 FT per Team            |
| MM30 Charge, Flexible 20 Gram PETN MK140  | 4 charges per Team       |
| MM44 Charge, Demolition Flexible Linear S | 1 charges per Team       |
| MM45 Charge, Demolition Flexible Linear S | 1 charges per Team       |

MM47 Charge, Demolition Flexible Linear S 1 charges per Team MM48 Charge, Demolition Flexible Linear S 1 charges per Team MN08 Igniter, Time Blasting Fuse with Sho 15 igniters per Team

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

**EQUIPMENT:** PPE

UNITS/PERSONNEL: Range Safety officer, Corpsman

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

ESB-DEMO-3004: Destroy building with demolitions

# SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: Destroy building with demolitions to ensure destruction of the building.

**CONDITION:** Given a tactical situation, demolition target, demolitions, task organized personnel, demolition tools, equipment, and references.

 $\underline{\mathtt{STANDARD}}$ : To ensure destruction of target per commander's intent and mission requirements.

# **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Coordinate with supporting unit (EOD) as required.
- 3. Prepare equipment as required.
- 4. Move to demolition site.
- 5. Prepare charge for demolition.
- 6. Set charge.
- 7. Establish safety zone.
- 8. Detonate explosive.
- 9. Verify destruction of building.
- 10. Submit required reports.

### RELATED EVENTS:

1302-DEMO-1001 1302-DEMO-1002 1302-DEMO-2001 1302-MOBL-1007 1371-DEMO-1001

# REFERENCES:

- 1. GTA 5-10-33 Demolition Card
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions

- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations

# SUPPORT REQUIREMENTS:

### ORDNANCE:

| DODIC                         |               | Quantity                 |
|-------------------------------|---------------|--------------------------|
| M028 Demolition Kit, Bangalor | re Torpedo M1 | 1 cases per Team         |
| M032 Charge, Demolition Block | k TNT 1-Pound | 3 charges per Team       |
| M039 Charge, Demolition Crate | ering 40-Poun | 3 charges per Team       |
| M130 Cap, Blasting Electric N | М6            | 5 blasting caps per Team |
| M131 Cap, Blasting Non-Elect  | ric M7        | 5 blasting caps per Team |
| M420 Charge, Demolition Shape | ed M2 Series  | 1 charges per Team       |
| M456 Cord, Detonating PETN Ty | ype I Class E | 250 FT per Team          |
| M591 Dynamite, Military M1    |               | 6 charges per Team       |
| M670 Fuse, Blasting Time M700 | 0             | 150 FT per Team          |
| M757 Charge, Assembly Demolit | tion M183 Com | 1 cases per Team         |
| M982 Charge, Demolition Sheet | t 0.161 Inch  | 6 FT per Team            |
| MM30 Charge, Flexible 20 Gran | m PETN MK140  | 4 charges per Team       |
| MM44 Charge, Demolition Flex  |               | 1 charges per Team       |
| MM45 Charge, Demolition Flex  | ible Linear S | 1 charges per Team       |
| MM47 Charge, Demolition Flex  | ible Linear S | 1 charges per Team       |
| MM48 Charge, Demolition Flex  |               | 1 charges per Team       |
| MN08 Igniter, Time Blasting I | Fuse with Sho | 15 igniters per Team     |
|                               |               |                          |

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

**EQUIPMENT:** 260 CFM, PPE.

UNITS/PERSONNEL: Range Safety officer, Corpsman

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

ESB-FUEL-3001: Operate bulk fuel distribution site

SUPPORTED MCT(S): MCT 4.4.3

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Employ bulk fuel systems, to include: SixCon pump and tank module, Expedient Refueling System (ERS), Amphibious Assault Refueling System (AAFS), Hose Reel System (HRS) to establish a bulk fuel site.

**CONDITION:** With a bulk fuel distribution plan, bulk fuel supply, distribution system, safety equipment and personnel.

STANDARD: To dispense fuel to using units in order to meet mission

requirements.

### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Dispense fuel, as required.
- 3. Receive fuel resupply, as required.
- 4. Produce reports, as required.
- 5. Recover system, as required.

# RELATED EVENTS:

| 1310-ADMN- | -2009 | 1310-ADMN-2010 | 1310-HEOP-2001 |
|------------|-------|----------------|----------------|
| 1310-MANT- | -2002 | 1345-HEOP-1001 | 1345-HEOP-1002 |
| 1345-HEOP- | -1003 | 1345-HEOP-1006 | 1345-MANT-1001 |
| 1349-ADMN- | -2009 | 1349-ADMN-2010 | 1349-HEOP-2001 |
| 1349-MANT- | -2002 | 1391-XENG-1001 | 1391-XENG-1002 |
| 1391-XENG- | -1004 | 1391-XENG-1005 | 1391-XENG-1006 |
| 1391-XENG- | -1007 | 1391-XENG-1008 | 1391-XENG-1009 |
| 1391-XENG- | -1011 | 1391-XENG-1012 | 1391-XENG-1013 |
| 1391-XENG- | -1014 | 1391-XENG-1015 |                |

# REFERENCES:

- 1. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 2. MIL STD 3004 Quality Surveillance Handbook for Fuels, Lubricants and Related Products
- 3. TB 10-5430-253-13 Technical Bulletin for Collapsible Fabric Fuel tanks
- 4. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

### SUPPORT REQUIREMENTS:

# RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17933 POL Training Area

**EQUIPMENT:** Engineer earthmoving equipment, Material Handling Equipment, Utilities equipment, Bulk fuel equipment, Motor Transport equipment, Engineer lifting equipment, Tactical communications equipment.

MATERIAL: Plan for POL and HazMat.

ESB-FUEL-3002: Provide tactical bulk fuel storage

SUPPORTED MCT(S): MCT 4.4.3

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Provide Tactical Bulk Fuel Storage.

CONDITION: Given fuel, equipment, personnel and references.

**STANDARD:** To ensure Days of Supply (DOS) are maintained.

# **EVENT COMPONENTS:**

1. Receive fuel.

- 2. Inventory stored fuel.
- 3. Test stored fuel for quality control measures.
- 4. Measure fuel by metering or/and gauging.
- 5. Submit reports, as required.

### RELATED EVENTS:

| 1391-XENG-1006 | 1391-XENG-1007 | 1391-XENG-1008 |
|----------------|----------------|----------------|
| 1391-XENG-1009 | 1391-XENG-1011 | 1391-XENG-1012 |
| 1391-XENG-1013 | 1391-XENG-1014 |                |

## **REFERENCES:**

- 1. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 2. TB 10-5430-253-13 Technical Bulletin for Collapsible Fabric Fuel tanks
- 3. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17933 POL Training Area

EQUIPMENT: Bulk fuel equipment, PPE.

ESB-HEOP-3001: Provide crane support

### SUPPORTED MCT(S):

| MCT | 1.4.1 | MCT 1.4.2 | MCT 4.4.1 |
|-----|-------|-----------|-----------|
| MCT | 4.4.2 | MCT 4.4.3 | MCT 6.1.4 |

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Employ organic crane assets, to include: ATC 50-ton and LRT 110 7-ton cranes.

CONDITION: Given an operations order, personnel, and engineer equipment.

**STANDARD:** To support mission requirements.

# **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Prepare equipment for operation.
- 3. Move to site.
- 4. Establish safety zone.
- 5. Deploy safety measures for equipment.
- 6. Conduct lift of material.
- 7. Displace equipment, as required.
- 8. Submit required reports.

#### RELATED EVENTS:

| 1310-ADMN-2002 | 1310-ADMN-2006 | 1310-ADMN-2007 |
|----------------|----------------|----------------|
| 1310-ADMN-2010 | 1310-HEOP-2001 | 1310-MANT-2002 |
| 1345-ADMN-2002 | 1345-HEOP-2002 | 1345-HEOP-2003 |
| 1345-MANT-2001 | 1349-ADMN-2002 | 1349-ADMN-2006 |
| 1349-ADMN-2007 | 1349-ADMN-2010 | 1349-HEOP-2001 |
| 1349-MANT-2002 |                |                |

- 1. Local Standard Operating Procedures (SOP)
- 2. Applicable technical references

### SUPPORT REQUIREMENTS:

### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Personnel operating cranes are required to be licensed on the equipment operating.

ESB-HEOP-3002: Provide Material Handling Equipment (MHE) support

# SUPPORTED MCT(S):

| MCT 1.4.1 | MCT 1.4.2 | MCT 4.4.1 |
|-----------|-----------|-----------|
| MCT 4.4.2 | MCT 4.4.3 | MCT 4.4.4 |
| MCT 6.1.4 |           |           |

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Employ organic MHE assets, to include: KALMAR RTCH, 624 TRAMS, Extended Boom Fork Lift, and MMV forklifts.

CONDITION: Given an operations order, personnel, and engineer equipment.

STANDARD: To support mission requirements.

# **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Prepare equipment for operation.
- 3. Move to site.
- 4. Establish safety zone.
- 5. Deploy safety measures for equipment.
- 6. Conduct lift of material.
- 7. Displace equipment, as required.
- 8. Submit required reports.

# RELATED EVENTS:

| 1310-ADMN-2002 | 1310-ADMN-2006 | 1310-ADMN-2009 |
|----------------|----------------|----------------|
| 1310-ADMN-2010 | 1310-HEOP-2001 | 1310-MANT-2002 |
| 1345-ADMN-1002 | 1345-HEOP-1001 | 1345-HEOP-1002 |
| 1345-HEOP-1003 | 1345-HEOP-2009 | 1345-MANT-1001 |
| 1349-ADMN-2006 | 1349-ADMN-2009 | 1349-ADMN-2010 |
| 1349-HEOP-2001 | 1349-MANT-2002 |                |

#### REFERENCES:

- 1. Local Standard Operating Procedures (SOP)
- 2. Applicable technical references

# SUPPORT REQUIREMENTS:

### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces

ESB-HEOP-3003: Provide earth moving equipment support

### SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2 MCT 4.4.1 MCT 4.4.2 MCT 4.4.3 MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Provide earth moving equipment support to support the mission utilizing the required type(s) of engineer equipment and personnel.

CONDITION: Given an operations order, personnel, and engineer equipment.

STANDARD: To support mission requirements.

### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Prepare equipment for operation.
- 3. Move to site.
- 4. Establish safety zone.
- 5. Deploy safety measures for equipment.
- 6. Conduct combined earthmoving operations.
- 7. Displace equipment, as required.
- 8. Submit required reports.

# RELATED EVENTS:

| 1310-ADMN-2002 | 1310-ADMN-2006 | 1310-ADMN-2009 |
|----------------|----------------|----------------|
| 1310-ADMN-2010 | 1310-HEOP-2001 | 1310-MANT-2002 |
| 1345-ADMN-1002 | 1345-HEOP-1003 | 1345-HEOP-1004 |
| 1345-HEOP-1005 | 1345-HEOP-1006 | 1345-HEOP-1007 |
| 1345-HEOP-2004 | 1345-HEOP-2005 | 1345-HEOP-2006 |
| 1345-HEOP-2008 | 1345-HEOP-2009 | 1345-MANT-1001 |
| 1349-ADMN-2002 | 1349-ADMN-2006 | 1349-ADMN-2009 |
| 1349-ADMN-2010 | 1349-HEOP-2001 | 1349-MANT-2002 |
|                |                |                |

#### **REFERENCES:**

- 1. Local Standard Operating Procedures (SOP)
- 2. Applicable technical references

### SUPPORT REQUIREMENTS:

### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces

ESB-HORZ-3001: Conduct dust abatement

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SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2 MCT 4.4.3

MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 3 months

**DESCRIPTION:** Employ a dust palliative with the assistance of organic engineer assets.

**CONDITION:** Given an operations order, personnel, engineer equipment, and materials.

**STANDARD:** To mitigate the effects of wind-blown dust on combatants and combat equipment that meets or exceeds commander's intent and supports the concept of operations.

### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Design position required.
- 3. Determine material required.
- 4. Calculate time required for construction.
- 5. Prepare equipment for operation.
- 6. Move to site.
- 7. Establish safety zone.
- 8. Construct blast screen, as required.
- 9. Displace equipment, as required.
- 10. Submit required reports.

### RELATED EVENTS:

| 1310-ADMN-2002 | 1310-ADMN-2009 | 1310-ADMN-2010 |
|----------------|----------------|----------------|
| 1310-HEOP-2001 | 1310-HORZ-2001 | 1310-HORZ-2002 |
| 1310-HORZ-2003 | 1310-MANT-2002 | 1345-HEOP-1007 |
| 1345-HEOP-2008 | 1349-HORZ-2002 | 1349-HORZ-2003 |
| 1349-MANT-2002 |                |                |

# REFERENCES:

- 1. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 2. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 3. MCRP 3-17.7I Earthmoving Operations
- 4. MCWP 3-17 Engineering Operations

# SUPPORT REQUIREMENTS:

#### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17918 Road/Airfield Construction Training Site

EQUIPMENT: Engineer Earthmoving and Material Handling equipment

ESB-MANT-3001: Maintain engineer equipment

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Maintain engineer equipment by conducting preventive and corrective maintenance on engineer equipment using unit assigned maintenance levels.

**CONDITION:** With equipment, tools, repair parts, supplies, personnel and references.

<u>STANDARD</u>: To sustain equipment in an operational status at or above unit's readiness requirements.

### **EVENT COMPONENTS:**

- 1. Monitor equipment readiness.
- 2. Conduct reconciliation.
- 3. Assign tasks.
- 4. Maintain organic tactical engineer equipment.
- 5. Manage maintenance programs.
- 6. Submit required reports.

# RELATED EVENTS:

| KETHIED EVERIES. |                |                |
|------------------|----------------|----------------|
| 1310-ADMN-2002   | 1310-ADMN-2003 | 1310-ADMN-2004 |
| 1310-ADMN-2005   | 1310-ADMN-2008 | 1310-MANT-2001 |
| 1316-ADMN-1001   | 1316-ADMN-1002 | 1316-ADMN-1003 |
| 1316-ADMN-2001   | 1316-ADMN-2002 | 1316-MANT-1002 |
| 1316-MANT-1004   | 1316-XENG-1001 | 1316-XENG-1002 |
| 1316-XENG-1004   | 1316-XENG-1005 | 1316-XENG-1006 |
| 1341-ADMN-1001   | 1341-ADMN-1002 | 1341-ADMN-2001 |
| 1341-ADMN-2002   | 1341-ADMN-2003 | 1341-ADMN-2004 |
| 1341-MANT-1001   | 1341-MANT-1002 | 1341-MANT-1003 |
| 1341-MANT-1004   | 1341-MANT-1005 | 1341-MANT-1006 |
| 1341-MANT-1007   | 1341-MANT-1008 | 1341-MANT-1009 |
| 1341-MANT-1010   | 1341-MANT-2009 | 1341-MANT-2010 |
| 1345-ADMN-1002   | 1345-MANT-1001 | 1345-MANT-2001 |
| 1345-MANT-2002   | 1349-ADMN-2001 | 1349-ADMN-2002 |
| 1349-ADMN-2003   | 1349-ADMN-2004 | 1349-ADMN-2008 |
| 1349-MANT-2001   | 1349-MANT-2002 | 1371-MANT-1001 |
| 1371-MANT-2002   |                |                |

### REFERENCES:

- 1. DoDI 6055.1 DoD Safety and Occupational Health (SOH) Program
- 2. EMC Electric Motor Controls by American Technical Publishers, Inc.
- 3. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 4. MCO 4733.1\_ Marine Corps Test, Measurement, and Diagnostics Equipment (TMDE) Calibration and Maintenance Program (CAMP)
- 5. MCO 4790.18\_ Corrosion Prevention and Control (CPAC) Program
- 6. MCO 5100.29\_ Marine Corps Safety Program
- 7. MCO P4790.2\_ MIMMS Field Procedures Manual
- 8. SOP Standard Operating Procedures (SOP)

### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

**EQUIPMENT:** Engineer tools, sets, kits.

ESB-MANT-3002: Employ maintenance team

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

**CONDITION:** With equipment, tools, repair parts, supplies, personnel and references.

**STANDARD:** To ensure equipment is in operational condition to support mission requirements.

# **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Determine personnel, tool, and equipment requirement(s).
- 3. Determine maintenance support requirement.
- 4. Conduct Limited Technical Inspection (LTI).
- 5. Repair equipment, as required.
- 6. Recover and evacuate, as required.
- 7. Submit required reports.

### **RELATED EVENTS:**

| 1310-ADMN-2002 | 1310-ADMN-2004 | 1310-MANT-2001 |
|----------------|----------------|----------------|
| 1310-MANT-2002 | 1341-ADMN-1002 | 1341-ADMN-2002 |
| 1341-ADMN-2003 | 1341-ADMN-2004 | 1341-MANT-1002 |
| 1341-MANT-2006 | 1341-MANT-2009 | 1341-MANT-2010 |
| 1349-ADMN-2002 | 1349-ADMN-2009 | 1349-MANT-2001 |
| 1349-MANT-2002 |                |                |
|                |                |                |

# REFERENCES:

- MCO 3000.11\_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
- 2. MCO 4610.35 USMC Equipment Characteristics File
- 3. MCO 4731.1 Oil Analysis Program for Ground Equipment
- 4. MCO 4733.1\_ Marine Corps Test, Measurement, and Diagnostics Equipment (TMDE) Calibration and Maintenance Program (CAMP)
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 4-11.4 Maintenance Operations

### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17420 Maneuver/Training Area, Heavy
Forces

EQUIPMENT: Maintenance Contact vehicle and equipment, PPE

ESB-MANT-3003: Maintain tactical power distribution system

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Maintain equipment to ensure the safe distribution of electrical power to meet mission requirements.

**CONDITION:** With a Preventive Maintenance Checks and Service (PMCS) Schedule, testing equipment, tools, and personnel.

STANDARD: To ensure the equipment is safe and operational.

### **EVENT COMPONENTS:**

- 1. Review PMCS schedule, as required.
- 2. Induct equipment into maintenance cycle.
- 3. Conduct preventive maintenance, as required.
- 4. Conduct corrective maintenance, as required.
- 5. Complete modifications, as required.
- 6. Ground system, as required.
- 7. Electrically energize system, as required.
- 8. Diagnose malfunction, as required.
- 9. Requisition repair parts, as required.
- 10. Install repair parts, as required.
- 11. Test system.
- 12. Complete quality control requirements.
- 13. Complete administrative maintenance requirements.

#### **RELATED EVENTS:**

| 1141-ADMN-1002 | 1141-ADMN-1006 | 1141-ADMN-1008 |
|----------------|----------------|----------------|
| 1141-ADMN-1010 | 1141-ADMN-1011 | 1141-ADMN-2073 |
| 1141-MANT-1101 | 1141-MANT-1224 | 1141-MANT-1324 |
| 1141-MANT-1424 | 1141-MANT-2191 | 1141-MANT-2244 |
| 1141-MANT-2344 | 1141-MANT-2444 | 1141-XENG-1601 |
| 1141-XENG-1703 | 1142-ADMN-1006 | 1142-ADMN-1008 |
| 1142-ADMN-1010 | 1142-ADMN-1011 | 1142-ADMN-2073 |
| 1142-MANT-1101 | 1142-MANT-1106 | 1142-MANT-1108 |
| 1142-MANT-1109 | 1142-MANT-1142 | 1142-MANT-1351 |
| 1142-MANT-1451 | 1142-MANT-1466 | 1142-MANT-1467 |
| 1142-MANT-1468 | 1142-MANT-1469 | 1142-MANT-1493 |
| 1142-MANT-2191 | 1142-MANT-2308 | 1142-MANT-2309 |
| 1142-MANT-2318 | 1142-MANT-2354 | 1142-MANT-2365 |
| 1142-MANT-2408 | 1142-MANT-2409 |                |
|                |                |                |

### **REFERENCES:**

- 1. MCO P4790.2\_ MIMMS Field Procedures Manual
- 2. MCRP 3-17.7K Theater of Operations Electrical Systems
- 3. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

**EQUIPMENT:** Multi-meter, tools, power generation equipment, PPE.

### MISCELLANEOUS:

**ADMINISTRATIVE INSTRUCTIONS:** This task includes conducting maintenance on generators, MEPDIS and MEPDIS-R.

ESB-MANT-3004: Maintain water purification equipment

SUPPORTED MCT(S): MCT 4.4.3

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Manage and conduct preventive and corrective maintenance on water purification equipment to meet mission requirements and commander's intent.

 $\underline{\text{CONDITION}}$ : With equipment, tools, repair parts, supplies, personnel and  $\underline{\text{references}}$ .

<u>STANDARD</u>: To sustain equipment in an operational status at or above unit's readiness requirements.

### **EVENT COMPONENTS:**

- 1. Conduct operational checks and services.
- 2. Conduct Limited Technical Inspections (LTI).
- 3. Open service request (GCSS-MC).
- 4. Order repair parts.
- 5. Install repair parts.
- 6. Complete modifications, as required.
- 7. Perform operational checks.
- 8. Complete quality control requirements.
- 9. Complete administrative maintenance requirements.

# RELATED EVENTS:

| 1142-ADMN-2073 | 1142-MANT-1101                                                                                                                                                                                                                         |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1142-MANT-1108 | 1142-MANT-1109                                                                                                                                                                                                                         |
| 1142-MANT-1493 | 1142-MANT-2191                                                                                                                                                                                                                         |
| 1171-ADMN-1006 | 1171-ADMN-1007                                                                                                                                                                                                                         |
| 1171-ADMN-1010 | 1171-ADMN-1011                                                                                                                                                                                                                         |
| 1171-ADMN-2072 | 1171-ADMN-2073                                                                                                                                                                                                                         |
| 1171-MANT-1248 | 1171-MANT-1271                                                                                                                                                                                                                         |
| 1171-MANT-1274 | 1171-MANT-1277                                                                                                                                                                                                                         |
| 1171-MANT-1279 | 1171-MANT-1280                                                                                                                                                                                                                         |
| 1171-MANT-1284 | 1171-MANT-1285                                                                                                                                                                                                                         |
| 1171-MANT-1348 | 1171-MANT-1371                                                                                                                                                                                                                         |
| 1171-MANT-1374 | 1171-MANT-1379                                                                                                                                                                                                                         |
| 1171-MANT-1433 | 1171-MANT-1441                                                                                                                                                                                                                         |
| 1171-MANT-1471 | 1171-MANT-1472                                                                                                                                                                                                                         |
| 1171-MANT-1478 | 1171-MANT-1482                                                                                                                                                                                                                         |
|                | 1142-MANT-1108<br>1142-MANT-1493<br>1171-ADMN-1006<br>1171-ADMN-2072<br>1171-MANT-1248<br>1171-MANT-1274<br>1171-MANT-1279<br>1171-MANT-1284<br>1171-MANT-1348<br>1171-MANT-1348<br>1171-MANT-1374<br>1171-MANT-1433<br>1171-MANT-1471 |

| 1171-MANT-1484 | 1171-MANT-1485 | 1171-MANT-2101 |
|----------------|----------------|----------------|
| 1171-MANT-2191 | 1171-MANT-2396 | 1171-MANT-2397 |

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TM 09476B-13/1 Operator, Unit, and Direct Support Maintenance Manual for Hypochlorination Unit
- 4. TM 09476B-23P/2 Unit and Direct Support Maintenance Repair Parts and Special Tools List for Hypochlorination Unit
- 5. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17924 Water Supply Training Area

**EQUIPMENT:** Utilities equipment, Engineer Material Handling Equipment, appropriate tools and kits.

MATERIAL: POLs as required.

ESB-MANT-3005: Maintain hygiene equipment

SUPPORTED MCT(S): MCT 4.4.3

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**<u>DESCRIPTION</u>**: Manage and conduct preventive and corrective maintenance on water support equipment to meet mission requirements and commander's intent.

**CONDITION:** With equipment, tools, repair parts, supplies, personnel and references.

**STANDARD:** To sustain equipment in an operational status at or above unit's readiness requirements.

# **EVENT COMPONENTS:**

- 1. Conduct operational checks and services.
- 2. Conduct Limited Technical Inspection (LTI).
- 3. Open service request (GCSS-MC).
- 4. Order Repair Parts.
- 5. Install Repair Parts.
- 6. Complete modifications, as required.
- 7. Perform operational checks.
- 8. Complete quality control requirements.
- 9. Complete maintenance administrative requirements.

# RELATED EVENTS:

| 1142-MANT-1101 | 1142-MANT-1106 | 1142-MANT-1108 |
|----------------|----------------|----------------|
| 1142-MANT-1109 | 1142-MANT-1331 | 1142-MANT-1392 |

| 1142-MANT-1493 | 1142-MANT-2332 | 1142-MANT-2338 |
|----------------|----------------|----------------|
| 1142-MANT-2438 | 1171-ADMN-1006 | 1171-ADMN-1007 |
| 1171-ADMN-1008 | 1171-ADMN-1010 | 1171-ADMN-1011 |
| 1171-ADMN-2071 | 1171-ADMN-2072 | 1171-ADMN-2073 |
| 1171-MANT-1231 | 1171-MANT-1232 | 1171-MANT-1241 |
| 1171-MANT-1277 | 1171-MANT-1278 | 1171-MANT-1331 |
| 1171-MANT-1332 | 1171-MANT-1431 | 1171-MANT-1432 |
| 1171-MANT-1477 | 1171-MANT-1478 | 1171-MANT-2101 |
| 1171-MANT-2191 | 1171-MANT-2338 | 1171-MANT-2395 |
| 1171-MANT-2396 | 1171-MANT-2438 |                |

- 1. FM 10-52 Water Supply in Theaters of Operation
- 2. FM 10-52-1 Water Supply Point Equipment and Operations
- 3. MCWP 4-11.4 Maintenance Operations
- 4. MCWP 4-11.6 Petroleum and Water Logistics Operations

# SUPPORT REQUIREMENTS:

### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17924 Water Supply Training Area

**EQUIPMENT:** Utilities equipment, Engineer Material Handling Equipment, appropriate tools and kits.

**MATERIAL:** Appropriate POLs as required.

**ESB-MANT-3006:** Maintain refrigeration system(s)

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: Conduct maintenance in order to sustain the refrigeration system(s) in operable status.

**CONDITION:** With equipment, tools, repair parts, supplies, personnel and references.

 $\underline{\mathtt{STANDARD}} \colon$  To sustain equipment in an operational status at or above units readiness requirements.

# **EVENT COMPONENTS:**

- 1. Conduct operational checks and services.
- 2. Conduct Limited Technical Inspection (LTI).
- 3. Open service request (GCSS-MC).
- 4. Order Repair Parts.
- 5. Install Repair Parts.
- 6. Complete Modifications, as required.
- 7. Perform Operational Checks.
- 8. Complete quality control requirements.
- 9. Complete maintenance administrative requirements.

| RELATED EVENTS: |                |                |
|-----------------|----------------|----------------|
| 1142-ADMN-1006  | 1142-ADMN-1008 | 1142-ADMN-1010 |
| 1142-ADMN-1011  | 1142-ADMN-2073 | 1142-MANT-1101 |
| 1142-MANT-1106  | 1142-MANT-1108 | 1142-MANT-1109 |
| 1142-MANT-1392  | 1142-MANT-1493 | 1142-MANT-2191 |
| 1142-MANT-2327  | 1161-ADMN-1006 | 1161-ADMN-1008 |
| 1161-ADMN-1010  | 1161-ADMN-1011 | 1161-ADMN-2073 |
| 1161-MANT-1101  | 1161-MANT-1102 | 1161-MANT-1103 |
| 1161-MANT-1104  | 1161-MANT-1106 | 1161-MANT-1107 |
| 1161-MANT-1108  | 1161-MANT-1109 | 1161-MANT-1235 |
| 1161-MANT-1335  | 1161-MANT-1402 | 1161-MANT-1404 |
| 1161-MANT-2191  |                |                |

- 1. 40 CFR 82 Chapter 40, Code of Federal Regulations, Part Number 82 (Protection of Stratospheric Ozone)
- 2. 42 USC 85 VI 7671 Title 42, United States Code, Chapter 85, Subchapter VI, Section 7671 (Ozone Protection)
- 3. MCO 5090.1 Chlorofluorocarbons (CFC's) and Halons
- 4. MCWP 4-11.4 Maintenance Operations
- 5. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment

### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

**EQUIPMENT:** Engineer Material Handling Equipment, power generation equipment, tools and kits.

ESB-MANT-3007: Maintain Environmental Control Units (ECU)

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**CONDITION:** With equipment, tools, repair parts, supplies, personnel and references.

**STANDARD:** To sustain equipment in an operational status at or above unit's readiness requirements.

### **EVENT COMPONENTS:**

- 1. Conduct operational checks and services.
- 2. Conduct Limited Technical Inspection (LTI).
- 3. Open service request (GCSS-MC).
- 4. Order Repair Parts.
- 5. Install Repair Parts.
- 6. Complete Modifications, as required.

- 7. Perform Operational Checks.
- 8. Complete quality control requirements.
- 9. Return administrative maintenance requirements.

### RELATED EVENTS:

| 1142-ADMN-1006 | 1142-ADMN-1008 | 1142-ADMN-1010 |
|----------------|----------------|----------------|
| 1142-ADMN-1011 | 1142-ADMN-2073 | 1142-MANT-1101 |
| 1142-MANT-1106 | 1142-MANT-1108 | 1142-MANT-1109 |
| 1142-MANT-2191 | 1142-MANT-2311 | 1161-ADMN-1006 |
| 1161-ADMN-1008 | 1161-ADMN-1010 | 1161-ADMN-1011 |
| 1161-ADMN-2015 | 1161-ADMN-2016 | 1161-ADMN-2073 |
| 1161-MANT-1101 | 1161-MANT-1102 | 1161-MANT-1103 |
| 1161-MANT-1104 | 1161-MANT-1106 | 1161-MANT-1107 |
| 1161-MANT-1108 | 1161-MANT-1109 | 1161-MANT-1211 |
| 1161-MANT-1218 | 1161-MANT-1311 | 1161-MANT-1318 |
| 1161-MANT-1401 | 1161-MANT-1403 | 1161-MANT-2191 |

### REFERENCES:

- 1. 40 CFR 82 Chapter 40, Code of Federal Regulations, Part Number 82 (Protection of Stratospheric Ozone)
- 2. 42 USC 85 VI 7671 Title 42, United States Code, Chapter 85, Subchapter VI, Section 7671 (Ozone Protection)
- 3. MCO 5090.1 Chlorofluorocarbons (CFC's) and Halons
- 4. MCWP 4-11.4 Maintenance Operations
- 5. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment

### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

**EQUIPMENT:** Engineer Material Handling equipment, Utilities equipment, tools and kits

ESB-MOBL-3001: Operate small craft

# SUPPORTED MCT(S):

MCT 1.4.1 MCT 2.2.2

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 3 months

**<u>DESCRIPTION</u>**: Employ small craft to reconnoiter littoral areas in support of mobility requirements.

**CONDITION:** Given a mission, commander's intent, a map, task organization of personnel and equipment, waterway to reconnaissance/scout, and the references.

STANDARD: To conduct an engineer reconnaissance of specified waterway, gather all relevant engineer data, produce a report in accordance with the concept of operations and commander's intent.

## **EVENT COMPONENTS:**

- 1. Review the order.
- 2. Coordinate with supported unit.
- 3. Prepare equipment for operation.
- 4. Move to launch point.
- 5. Launch reconnaissance team.
- 6. Conduct reconnaissance mission.
- 7. Recover reconnaissance team.
- 8. Submit required reports.

#### RELATED EVENTS:

| 1302-MOBL-1015 | 1310-ADMN-2002 | 1310-ADMN-2004 |
|----------------|----------------|----------------|
| 1310-ADMN-2009 | 1310-MANT-2001 | 1310-MANT-2002 |
| 1342-MANT-1001 | 1342-MANT-1002 | 1342-MANT-1004 |
| 1342-MANT-1010 | 1349-ADMN-2002 | 1349-ADMN-2004 |
| 1349-ADMN-2009 | 1349-MANT-2001 | 1349-MANT-2002 |
| 1371-MOBL-1005 | 1371-MOBL-2005 | 1371-MOBL-2008 |

#### **REFERENCES:**

- 1. MCWP 3-17.4 Engineer Reconnaissance
- 2. MCWP 3-17.8 Combined Arms Mobility Operations
- 3. TM 09665 B-10/1 Combat Rubber Reconnaissance Craft Field Service Manual
- 4. TM 09665A-13&P/1-1 Operation and Maintenance of the Combat Rubber Reconnaissance Craft
- 5. TM 09665A-13&P/1-2 Operation and Maintenance of the Combat Rubber Reconnaissance Craft
- 6. TM 09665B The 55 HP Engine

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17922 Floating Bridge Site

ESB-MOBL-3002: Employ a medium machinegun team

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Employ a medium machinegun team in a mounted/dismounted position.

**CONDITION:** Given an operations order, a medium machinegun team, mounted, sectors of fire, targets, FPF, and while wearing fighting loads.

<u>STANDARD</u>: To support the scheme of maneuver in accordance with the concept of operations and commander's intent.

- 1. Coordinate with supported unit.
- 2. Emplace/mount the weapon.
- 3. Engage targets.
- 4. Control fires as directed.
- 5. Displace according to scheme of maneuver.

6. Prepare for follow-on missions.

#### **REFERENCES:**

- 1. MCWP 3-1 Ground Combat Operations
- 2. MCWP 3-15.1 Machine Guns and Machine Gun Gunnery

## SUPPORT REQUIREMENTS:

#### **ORDNANCE:**

DODIC
A064 Cartridge, 5.56mm 4 Ball M855/1 Trac
A131 Cartridge, 7.62mm 4 Ball M80/1 Trace
A135 Cartridge, 7.62mm Dummy M63

Quantity
456 rounds per Team
882 rounds per Team
12 rounds per Team

#### RANGE/TRAINING AREA:

Facility Code 17580 Machine Gun Transition Range Facility Code 17581 Machine Gun Field Fire Range

UNITS/PERSONNEL: Range Safety officer, Corpsman

OTHER SUPPORT REQUIREMENTS: ORM

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: This task should be trained on the ISMT before expending live rounds. This task can be accomplished using training rounds. This task can be sustained through ISMT. Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

**ESB-MOBL-3003:** Employ a heavy machinegun team

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 3 months

**DESCRIPTION:** Employ a heavy machinegun team in a mounted/dismounted position.

**CONDITION:** Given an operations order, a heavy machinegun team, mounted, sectors of fire, targets, FPF, and while wearing fighting loads.

**STANDARD:** To support the scheme of maneuver.

- 1. Coordinate with supported unit.
- 2. Emplace/mount the weapon.
- 3. Engage targets.
- 4. Control fires as directed.
- 5. Displace according to scheme of maneuver.
- 6. Prepare for follow-on missions.

#### **REFERENCES:**

- 1. MCWP 3-1 Ground Combat Operations
- 2. MCWP 3-15.1 Machine Guns and Machine Gun Gunnery

## SUPPORT REQUIREMENTS:

#### ORDNANCE:

| DODIC           |                           | Quantity            |
|-----------------|---------------------------|---------------------|
| A560 Cartridge, | Caliber .50 Dummy M2      | 20 rounds per Team  |
| A576 Cartridge, | Caliber .50 4 API M8/1 AP | 604 rounds per Team |
| B472 Cartridge, | 40mm Dummy M922           | 20 rounds per Team  |
| B542 Cartridge, | 40mm HEDP M430/M430A1 Lin | 254 rounds per Team |
| BA21 Cartridge, | 40mm Practice (Day/Night) | 32 rounds per Team  |

## RANGE/TRAINING AREA:

Facility Code 17580 Machine Gun Transition Range Facility Code 17581 Machine Gun Field Fire Range

UNITS/PERSONNEL: Range Safety officer, Corpsman

OTHER SUPPORT REQUIREMENTS: ORM

### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: This task should be trained on the ISMT before expending live rounds. This task can be accomplished using training rounds. This task can be sustained through ISMT. Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

ESB-MOBL-3004: Fell standing timber

# SUPPORTED MCT(S):

MCT 1.4.1 MCT 1.4.2 MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 3 months

**DESCRIPTION:** Fell standing timber to clear a forested area in support of operations.

**CONDITION:** Given an operations order, standing timber, appropriate hand tools, an SL-3 complete chainsaw, mixed fuel, personnel, and all personal protective equipment (PPE).

**STANDARD:** To clear a forested area in support of operations in accordance with the concept of operations and the commander's intent.

- 1. Coordinate with supported unit.
- 2. Determine equipment required.
- 3. Calculate time required for construction.
- 4. Prepare equipment for operation.

- 5. Move to site.
- 6. Establish safety zone.
- 7. Cut timber.
- 8. Submit required reports.

| 1302-CMOB-1001 | 1302-SURV-1001 | 1310-ADMN-2002 |
|----------------|----------------|----------------|
| 1310-ADMN-2004 | 1310-ADMN-2009 | 1310-ADMN-2010 |
| 1310-HEOP-2001 | 1310-MANT-2002 | 1345-HEOP-1004 |
| 1345-HEOP-1005 | 1345-HEOP-1006 | 1345-MANT-1001 |
| 1345-MANT-2001 | 1349-ADMN-2004 | 1349-ADMN-2009 |
| 1349-ADMN-2010 | 1349-HEOP-2001 | 1349-MANT-2002 |
| 1371-CMOB-2001 | 1371-EOPS-1002 | 1371-EOPS-1003 |
| 1371-EOPS-2008 |                |                |
|                |                |                |

## REFERENCES:

- 1. Appropriate TM/Manufacture's Manual for Chainsaw
- 2. MCRP 3-17A Engineering Field Data
- 3. MCRP 3-17B Engineer Forms and Reports

# SUPPORT REQUIREMENTS:

## ORDNANCE:

| DODIC                                                        | Quantity                 |
|--------------------------------------------------------------|--------------------------|
| $\overline{\text{M023}}$ Charge, Demolition Block M112 1-1/4 | 10 charges per Team      |
| M032 Charge, Demolition Block TNT 1-Pound                    | 10 charges per Team      |
| M130 Cap, Blasting Electric M6                               | 6 blasting caps per Team |
| M131 Cap, Blasting Non-Electric M7                           | 6 blasting caps per Team |
| M456 Cord, Detonating PETN Type I Class E                    | 1000 FT per Team         |
| M591 Dynamite, Military M1                                   | 20 charges per Team      |
| M670 Fuse, Blasting Time M700                                | 500 FT per Team          |
| MN08 Igniter, Time Blasting Fuse with Sho                    | 10 igniters per Team     |
| MN52 MK154 Mod 0                                             | 10 detonators per Team   |

# RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

**EQUIPMENT:** Combat engineer tools and kits, HazMat containment kit, PPE.

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

ESB-MOBL-3005: Create a lane through an obstacle

SUPPORTED MCT(S): MCT 1.4.1

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

<u>DESCRIPTION</u>: Create a lane through an obstacle that provides safe passage of a passing force. The route may be reduced and proofed as part of a breaching operation, be constructed as part of the obstacle, or be marked as a bypass.

**CONDITION:** Given a tactical situation, an order, breaching assets, location of lane to be created, current obstacle intelligence, and references.

**STANDARD:** To assure mobility in accordance with the commander's intent and concept of operations.

# **EVENT COMPONENTS:**

- 1. Receive the mission.
- 2. Acquire explosive/non-explosive breaching assets.
- 3. Conduct battle drills (team) to rehearse the breach of an obstacle.
- 4. Move to breach site.
- 5. Execute the breach.
- 6. Proof lane.
- 7. Mark lane.
- 8. Submit required reports.

### RELATED EVENTS:

| 1302-MOBL-1005 | 1310-ADMN-2009 | 1310-ADMN-2010 |
|----------------|----------------|----------------|
| 1310-HEOP-2001 | 1310-MANT-2002 | 1345-HEOP-1004 |
| 1345-MANT-1001 | 1349-ADMN-2009 | 1349-ADMN-2010 |
| 1349-HEOP-2001 | 1349-MANT-2002 | 1371-MOBL-1003 |
| 1371-MOBL-2012 | 1371-MOBL-2017 |                |

#### REFERENCES:

- 1. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 2. MCWP 3-1 Ground Combat Operations
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.3 MAGTF Breaching Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3-17.8 Combined Arms Mobility Operations

# **SUPPORT REQUIREMENTS:**

# ORDNANCE:

| Quantity                  |
|---------------------------|
| 4 rockets per Team        |
| 1 charges per Team        |
| 20 charges per Team       |
| 60 blasting caps per Team |
| 1500 FT per Team          |
| 500 FT per Team           |
| 2 charges per Team        |
| 1 charges per Team        |
| 2 charges per Team        |
| 100 igniters per Team     |
| 1 mines per Team          |
| 10 blasting caps per Team |
| 10 blasting caps per Team |
|                           |

. . . .

## RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer breaching assets, Demo kit, PPE.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

### **MISCELLANEOUS:**

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

ESB-MOBL-3006: Proof a lane through an obstacle

SUPPORTED MCT(S): MCT 1.4.1

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Proof a lane through an obstacle to verify that a lane is free of explosive hazards and that the width and trafficability of the point of breach are suitable for the assault force. Proofing can be conducted visually (against surface-laid minefields), electronically (mine detectors), or mechanically (mine clearing rollers [MCRs]). Proofing is conducted when the risk of live mines remaining in the lane exceeds the risk of loss (lives and equipment) to enemy fires while waiting to complete proofing.

**CONDITION:** Given a breached lane, task organized equipment and personnel, and references.

**STANDARD:** To verify that a lane is free of all remnants of explosive and non-explosive obstacles and to allow for rapid passage of assault forces in accordance with the commander's intent and concept of operations.

#### **EVENT COMPONENTS:**

- 1. Receive the mission.
- 2. Conduct mechanical proof of breached lane, as required.
- 3. Conduct manual proof of breached lane, as required.
- 4. Submit required reports.

## RELATED EVENTS:

| <u></u>        |                |                |
|----------------|----------------|----------------|
| 1302-DEMO-1001 | 1302-DEMO-1002 | 1302-MOBL-1004 |
| 1302-MOBL-1005 | 1302-MOBL-1009 | 1302-MOBL-1010 |
| 1371-DEMO-1001 | 1371-DEMO-2002 | 1371-DEMO-2003 |
| 1371-DEMO-2004 | 1371-DEMO-2005 | 1371-MOBL-1001 |
| 1371-MOBL-1002 | 1371-MOBL-1003 | 1371-MOBL-2012 |
| 1371-MOBL-2017 | 1371-MOBL-2019 | 1371-MOBL-2020 |
| 1371-MOBL-2022 | 1371-MOBL-2023 | 1371-MOBL-2035 |

## REFERENCES:

- 1. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 2. MCWP 3-1 Ground Combat Operations

- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.4 Engineer Reconnaissance
- 5. MCWP 3-17.8 Combined Arms Mobility Operations

## SUPPORT REQUIREMENTS:

#### ORDNANCE:

| DODIC                                     | <u>Quantity</u>           |
|-------------------------------------------|---------------------------|
| M032 Charge, Demolition Block TNT 1-Pound | 20 charges per Team       |
| M130 Cap, Blasting Electric M6            | 60 blasting caps per Team |
| M456 Cord, Detonating PETN Type I Class E | 1000 FT per Team          |
| M670 Fuse, Blasting Time M700             | 500 FT per Team           |
| M757 Charge, Assembly Demolition M183 Com | 2 charges per Team        |
| MN08 Igniter, Time Blasting Fuse with Sho | 100 igniters per Team     |
| MN88 Cap, Blasting, 500 ft mini-tube M21  | 10 igniters per Team      |
| MN90 Cap, Blasting, 1000 ft mini-tube M23 | 10 blasting caps per Team |
|                                           |                           |

## RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

**EQUIPMENT:** Combat Engineer breaching assets, mine detectors, Demo kit.

UNITS/PERSONNEL: Range Safety officer, Corpsman.

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

ESB-MOBL-3007: Mark a lane through an obstacle

SUPPORTED MCT(S): MCT 1.4.1

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**DESCRIPTION:** Mark a lane through an obstacle to identify a breached lane for rapid passage of the force.

**CONDITION:** Given a proofed lane, task organized equipment and personnel, and references.

**STANDARD:** To identify a breached lane for rapid passage of assault forces in accordance with the commander's intent and the concept of operations.

## **EVENT COMPONENTS:**

- 1. Receive the mission.
- 2. Mark the breached lane.
- 3. Submit required reports.

## RELATED EVENTS:

1302-MOBL-1005 1371-MOBL-1003 1371-MOBL-2012

1371-MOBL-2017

# REFERENCES:

- 1. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 2. MCWP 3-1 Ground Combat Operations
- 3. MCWP 3-17.4 Engineer Reconnaissance
- 4. MCWP 3-17.8 Combined Arms Mobility Operations

### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: HEMMS Kit and Minefield marking kit

UNITS/PERSONNEL: Range Safety officer, Corpsman

ESB-RECN-3001: Survey site for construction

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: Survey site for construction to allow critical planning for construction and or operations in support of the MAGTF.

**CONDITION:** Provided a construction mission, a map, a scientific calculator, task organized personnel, equipment, and references.

**STANDARD:** To support commander's intent, mission requirements and concept of operations.

# **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Move to survey site.
- 3. Reconnoiter project site, as required.
- 4. Submit required reports.

## RELATED EVENTS:

| 1302-HORZ-1001                   | 1302-PLAN-1002                   | 1302-PLAN-2004 |
|----------------------------------|----------------------------------|----------------|
| 1302-RECN-1001                   | 1302-VERT-1001                   | 1361-SRVY-1001 |
| 1361-SRVY-1002                   | 1361-SRVY-1003                   | 1361-SRVY-1004 |
| 1361-SRVY-1005                   | 1361-SRVY-1006                   | 1361-SRVY-1007 |
| 1361-SRVY-1008                   | 1361-SRVY-1009                   | 1361-SRVY-1010 |
| 1361-SRVY-1011                   | 1361-SRVY-1012                   | 1361-SRVY-2002 |
| 1361-XENG-2001                   | 1361-XENG-2002                   | 1371-PLAN-2002 |
| 1371-RECN-1001                   | 1371-RECN-2001                   |                |
| 1361-SRVY-1011<br>1361-XENG-2001 | 1361-SRVY-1012<br>1361-XENG-2002 | 1361-SRVY-20   |

## REFERENCES:

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7D Concrete and Masonry
- 3. MCRP 3-17A Engineering Field Data

- 4. MCWP 3-17.4 Engineer Reconnaissance
- 5. NAVEDTRA 10696 Engineer Aid 3
- 6. TM 5-581B Construction Drafting
- 7. TM 5-704 Construction Print Reading in the Field

#### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

ESB-RECN-3002: Conduct cache sweep

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 3 months

**DESCRIPTION:** Conduct cache sweep to detect suspected caches of weapons/ordnance, to include: IEDs, mines, ammunition, weapons, and explosives.

**CONDITION:** Provided a mission order, detection equipment, personnel, engineer equipment, Class IV, personal protective equipment, and references.

<u>STANDARD</u>: To locate, mark, and reduce all discovered ordnance, munitions, mines, ammunition, weapons, and explosives per commander's intent and mission requirement.

## **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Determine detector to be used.
- 3. Prepare equipment for operation.
- 4. Move to site.
- 5. Establish safety zone.
- 6. Conduct area sweep.
- 7. Locate and mark the object.
- 8. Identify the object.
- 9. Destroy object(s), as required.
- 10. Proof area to ensure explosive object has been properly neutralized.
- 11. Submit required reports.

# RELATED EVENTS:

| 1302-DEMO-1004 | 1302-MOBL-1002 | 1302-MOBL-1003 |
|----------------|----------------|----------------|
| 1302-MOBL-1009 | 1302-RECN-1001 | 1371-MOBL-1002 |
| 1371-MOBL-1003 | 1371-MOBL-2018 | 1371-MOBL-2020 |
| 1371-MOBL-2021 | 1371-MOBL-2022 |                |

#### **REFERENCES:**

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17B Engineer Forms and Reports

## 6. MCWP 3-17 Engineering Operations

## SUPPORT REQUIREMENTS:

### **ORDNANCE:**

| DODIC                                     | Quantity                  |
|-------------------------------------------|---------------------------|
| M032 Charge, Demolition Block TNT 1-Pound | 20 charges per Team       |
| M039 Charge, Demolition Cratering 40-Poun | 1 charges per squad       |
| M130 Cap, Blasting Electric M6            | 20 blasting caps per Team |
| M131 Cap, Blasting Non-Electric M7        | 10 blasting caps per Team |
| M420 Charge, Demolition Shaped M2 Series  | 1 charges per Team        |
| M421 Charge, Demolition Shaped M3 Series  | 1 charges per Team        |
| M456 Cord, Detonating PETN Type I Class E | 1000 FT per Team          |
| M591 Dynamite, Military M1                | 10 charges per Team       |
| M670 Fuse, Blasting Time M700             | 500 FT per Team           |
| M757 Charge, Assembly Demolition M183 Com | 1 charges per Team        |
| MN08 Igniter, Time Blasting Fuse with Sho | 20 igniters per Team      |

## RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17830 Light Demolition Range

EQUIPMENT: Combat engineer equipment, tools and kits

<u>UNITS/PERSONNEL</u>: Range safety officer, Corpsman, EOD personnel, Weapons intelligence team

OTHER SUPPORT REQUIREMENTS: ORM

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution per team. Final amounts should be adjusted to reflect sustainment intervals for this event.

ESB-RECN-3003: Conduct obstacle reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct obstacle reconnaissance to focus on answering obstacle intelligence IR-obstacle location, width, and depth; obstacle composition (wire, mines by type, and so forth.); soil conditions; locations of lanes and bypasses; and the location of enemy direct-fire systems.

<u>CONDITION</u>: Provided a mission, a tactical scenario, blank engineer reconnaissance forms (DA Form 1711-R), personnel, equipment, and references.

STANDARD: To identify obstacles; identify suitable bypasses; and record any other relevant engineer information on the appropriate reconnaissance forms per the references. All information will be transferred to a map overlay

using correct engineer/tactical symbols.

#### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Review the map of the route to be taken.
- 3. Proceed to assigned objective.
- 4. Determine obstacle type and location.
- 5. Reconnoiter obstacle, as required.
- 6. Identify suitable bypasses.
- 7. Submit required reports.

#### RELATED EVENTS:

1302-RECN-1001 1371-RECN-1001 1371-RECN-2001

#### **REFERENCES:**

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. GTA 05-07-013 Bridge Classification Card (2006)
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.4 Engineer Reconnaissance
- 9. MCWP 3-17.8 Combined Arms Mobility Operations

### SUPPORT REQUIREMENTS:

#### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17920 Panel Bridge Area

**EQUIPMENT:** Motor Transport equipment, Range finder, Tape measure, Compass, Protractor, Camera, Maps.

ESB-RECN-3004: Conduct bridge reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Conduct bridge reconnaissance to collect detailed technical information on selected bridges. This assessment provides the basic Military Load Classification (MLC) information necessary for the commander to plan for the use of the bridge.

<u>CONDITION</u>: Provided a mission, a tactical scenario, blank engineer reconnaissance forms (DA Form 1711-R), personnel, equipment, and references.

**STANDARD:** To classify bridges, identify obstacles, identify suitable bypasses, and record any other relevant engineer information on the appropriate reconnaissance forms per the references. All information will be transferred to a map overlay using correct engineer/tactical symbols.

## **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Review the map of the route to be taken.
- 3. Proceed to assigned objective.
- 4. Reconnoiter bridge.
- 5. Classify bridge(s), as required.
- 6. Identify suitable bypasses.
- 7. Submit required reports.

#### RELATED EVENTS:

1302-RECN-1001 1371-RECN-1001 1371-RECN-2001

#### REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. GTA 5-7-13 Bridge Classification Booklet
- 5. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 9. MCWP 3-1 Ground Combat Operations
- 10. MCWP 3-17 Engineering Operations
- 11. MCWP 3-17.3 MAGTF Breaching Operations
- 12. MCWP 3-17.4 Engineer Reconnaissance

# **SUPPORT REQUIREMENTS:**

## RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17920 Panel Bridge Area

ESB-RECN-3005: Conduct road reconnaissance

**SUPPORTED MCT(S):** MCT 2.2.2

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Conduct road reconnaissance to collect detailed technical information on the engineering characteristics and trafficability of a road section within a route.

<u>CONDITION</u>: Provided a mission, a tactical scenario, blank engineer reconnaissance forms (DA Form 1711-R), personnel, equipment, and references.

**STANDARD:** To classify roads, routes; identify obstacles; identify suitable bypasses; and record any other relevant engineer information on the appropriate reconnaissance forms per the references. All information will be transferred to a map overlay using correct engineer/tactical symbols.

- 1. Coordinate with supported unit.
- 2. Review the map of the route to be taken.

- 3. Proceed to assigned objective.
- 4. Reconnoiter road(s) or route(s), as required.
- Classify road(s), as required.
- Classify route(s), as required
- 7. Identify suitable bypasses.
- 8. Submit required reports.

1302-RECN-1001 1371-RECN-1001 1371-RECN-2001

### **REFERENCES:**

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.4 Engineer Reconnaissance
- 9. MCWP 3-17.8 Combined Arms Mobility Operations

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

ESB-RECN-3006: Assess damage to airfield surfaces

SUPPORTED MCT(S): MCT 2.2.2

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Surface defects can usually be attributed to excessive loads, inferior surfacing material, poor subgrade or base conditions, inadequate drainage, or a combination of these conditions. Surface inspections should include a complete inventory of the current pavement defects. Careful investigation of the causes of the defects will allow for timely maintenance to prevent the pavement defects from requiring repair.

**CONDITION:** Given a tactical situation, a forward operating base to be repaired, an operations order, commander's intent, personnel, equipment, and references.

**STANDARD:** To restore the forward operating base to optimum operational capability to reestablish surface roughness criteria in order to maintain serviceability of the airfield surface.

- 1. Coordinate with supported unit.
- 2. Coordinate with supporting unit (EOD).
- 3. Determine personnel, tool, and equipment requirement(s).
- 4. Proceed to assigned objective.
- 5. Reconnoiter damaged airfield surface, as required.

- 6. Determine the type and extent of repair required.
- 7. Determine material required to complete the repair.
- 8. Issue the repair order.
- 9. Inspect completed repair.
- 10. Submit appropriate engineer reports.

| 1302-EOPS-1004 | 1302-EOPS-1007 | 1302-EOPS-1009 |
|----------------|----------------|----------------|
| 1371-EOPS-2004 | 1371-EOPS-2006 | 1371-EOPS-2007 |
| 1371-EOPS-2010 | 1371-EOPS-2011 | 1371-EOPS-2012 |

#### REFERENCES:

- 1. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 2. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 3. MCRP 3-17B Engineer Forms and Reports
- 4. MCWP 3.21.1 Aviation Ground Support
- 5. MCWP 3-17 Engineering Operations

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17918 Road/Airfield Construction

Training Site

**EQUIPMENT:** Engineer equipment, PPE

UNITS/PERSONNEL: EOD personnel

ESB-RECN-3007: Assess damage to airfield facilities and structures

**SUPPORTED MCT(S):** MCT 2.2.2

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Airfield facilities and structures used by coalition forces may be of sub-standard construction practices/materials or may have degraded over time therefore periodic inspections should be performed to ensure structural integrity and safety of the occupants.

<u>CONDITION</u>: Given an operations order, an airfield facility or structure to be repaired, task organized equipment and personnel, resources, and references.

**STANDARD:** To restore airfield facilities and structures to operating conditions in accordance with the commander's intent and concept of operations.

- 1. Coordinate with supported unit.
- 2. Determine personnel, tool, and equipment requirement(s).
- 3. Proceed to assigned objective.
- 4. Reconnoiter damaged airfield facilities, as required.

- 5. Determine the type and extent of repair required.
- 6. Determine material required to complete the repair.
- 7. Submit appropriate engineer reports.

| 1302-EOPS-1004 | 1302-EOPS-1009 | 1361-DRAF-1001 |
|----------------|----------------|----------------|
| 1361-DRAF-1003 | 1361-SRVY-1007 | 1361-SRVY-2003 |
| 1361-SRVY-2004 | 1361-SRVY-2005 | 1371-EOPS-2004 |
| 1371-EOPS-2006 | 1371-EOPS-2007 | 1371-EOPS-2010 |
| 1371-EOPS-2011 | 1371-EOPS-2012 |                |

#### REFERENCES:

- 1. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 2. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 3. MCRP 3-17B Engineer Forms and Reports
- 4. MCWP 3.21.1 Aviation Ground Support
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.7 General Engineering

## SUPPORT REQUIREMENTS:

**RANGE/TRAINING AREA:** Facility Code 17918 Road/Airfield Construction

Training Site

**EQUIPMENT:** Engineer equipment, PPE

UNITS/PERSONNEL: EOD personnel

ESB-RECN-3008: Conduct gap reconnaissance

SUPPORTED MCT(S): MCT 2.2.2

**EVALUATION-CODED:** YES **SUSTAINMENT INTERVAL:** 6 months

**DESCRIPTION:** Conduct gap reconnaissance to evaluate gaps and fording sites, identify obstacles, suitable bypasses, and record any other relevant engineer information on the appropriate reconnaissance forms.

**CONDITION:** Provided a mission, a tactical scenario, blank engineer reconnaissance forms, personnel, equipment, and reference.

**STANDARD:** To ensure the crossing is supportable and accounts for all tactical control measures in accordance with the concept of operations and the commander's intent.

- 1. Coordinate with supported unit.
- 2. Review the map of the route to be taken.
- 3. Proceed to assigned objective.
- 4. Reconnoiter gap, as required.
- 5. Determine wet gap fording/bridging sites, as required.

- 6. Identify suitable bypasses.
- 7. Submit required reports.

| 1302-MOBL-1010 | 1302-MOBL-1011 | 1302-MOBL-1012 |
|----------------|----------------|----------------|
| 1302-MOBL-1013 | 1302-MOBL-1014 | 1302-MOBL-1015 |
| 1302-RECN-1001 | 1371-MOBL-2006 | 1371-MOBL-2007 |
| 1371-MOBL-2009 | 1371-MOBL-2017 | 1371-RECN-1001 |
| 1371-RECN-2001 |                |                |

### **REFERENCES:**

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. GTA 5-7-13 Bridge Classification Booklet
- 5. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCWP 2-15.3 Ground Reconnaissance Operations (FMFM 2-2)
- 9. MCWP 3-1 Ground Combat Operations
- 10. MCWP 3-17 Engineering Operations
- 11. MCWP 3-17.3 MAGTF Breaching Operations
- 12. MCWP 3-17.4 Engineer Reconnaissance
- 13. MCWP 3-17.8 Combined Arms Mobility Operations

### SUPPORT REQUIREMENTS:

#### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17920 Panel Bridge Area

ESB-SURV-3001: Construct trenches

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Employ organic hand tools and/or earth moving assets, tools and equipment.

CONDITION: Given an operations order, personnel, and engineer equipment.

**STANDARD:** That allows multiple combatants' protection from direct fire weapons affords a force the capability to engage targets from front and oblique's, meets or exceeds the mission requirement and supports the concept of operation in accordance with the commander's intent.

- 1. Coordinate with supported unit.
- 2. Calculate time required for construction.
- 3. Prepare equipment for operation.
- 4. Move to site.
- 5. Establish safety zone.

- 6. Dig emplacement, as required.
- 7. Displace equipment, as required.
- 8. Submit required reports.

| 1302-SURV-1001 | 1310-HEOP-2001 | 1310-MANT-2002 |
|----------------|----------------|----------------|
| 1345-HEOP-1004 | 1345-HEOP-2005 | 1349-HEOP-2001 |
| 1349-MANT-2002 | 1371-SURV-1001 |                |

#### **REFERENCES:**

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCRP 3-17A Engineering Field Data
- 3. MCRP 3-17B Engineer Forms and Reports
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.5 Combined Arms Countermobility Operations
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 8. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 9. MCWP 3-41.1 Rear Area Operations
- 10. MCWP 4-11 Tactical-Level Logistics

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

**EQUIPMENT:** Engineer equipment

MATERIAL: Map, Compass, Protractor, Overlay Sheets, Reconnaissance Reports

#### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

ESB-SURV-3002: Construct shelters/bunkers

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Construct shelters/bunkers to provide combatant(s) and/or combat equipment cover from the elements, indirect/direct fire weapons.

**CONDITION:** Given an operations order, personnel, and engineer equipment.

**STANDARD:** That provides combatant(s) and/or combat equipment cover from the elements, indirect/direct fire weapons, and meets or exceeds the mission requirement and supports the concept of operation in accordance with the commander's intent.

- 1. Coordinate with supported unit.
- 2. Design position required.

- 3. Determine material required.
- 4. Calculate time required for construction.
- 5. Prepare equipment for operation.
- 6. Move to site.
- 7. Establish safety zone.
- 8. Construct shelter/bunker, as required.
- 9. Displace equipment, as required.
- 10. Submit required reports.

| KETHIED EAFMID: |                |                |
|-----------------|----------------|----------------|
| 1302-CMOB-1001  | 1302-CMOB-1003 | 1302-SURV-1001 |
| 1302-SURV-1003  | 1310-HEOP-2001 | 1310-HORZ-2001 |
| 1310-HORZ-2002  | 1310-HORZ-2003 | 1310-MANT-2002 |
| 1316-ADMN-1001  | 1316-ADMN-2001 | 1316-ADMN-2002 |
| 1316-XENG-1001  | 1316-XENG-1006 | 1316-XENG-2002 |
| 1345-HEOP-1003  | 1345-HEOP-1004 | 1345-HEOP-1005 |
| 1345-HEOP-1007  | 1345-HEOP-2006 | 1345-HEOP-2007 |
| 1345-HEOP-2012  | 1345-MANT-1001 | 1345-MANT-2001 |
| 1349-HEOP-2001  | 1349-HORZ-2001 | 1349-HORZ-2002 |
| 1349-HORZ-2003  | 1349-MANT-2002 | 1371-CMOB-1001 |
| 1371-CMOB-1002  | 1371-CMOB-1003 | 1371-CMOB-2001 |
| 1371-CMOB-2002  | 1371-SURV-1001 | 1371-SURV-2001 |
| 1371-SURV-2002  |                |                |
|                 |                |                |

#### **REFERENCES:**

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-41.1 Rear Area Operations
- 8. MCWP 4-11 Tactical-Level Logistics

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Engineer equipment and combat engineer tools and kits.

<u>MATERIAL</u>: Map, Compass, Protractor, Overlay sheets, Reconnaissance reports, Class IV materials as required.

### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

ESB-SURV-3003: Construct vehicle survivability position/revetment

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**<u>DESCRIPTION</u>**: Construct vehicle survivability position/revetment to increase vehicle survivability.

**CONDITION:** Given an operations order, personnel, engineer equipment, and materials.

**STANDARD:** To build vehicle survivability positions/revetments that meets or exceeds the mission requirement and supports the concept of operation in accordance with the commander's intent.

### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Design position required.
- 3. Determine material required.
- 4. Calculate time required for construction.
- 5. Prepare equipment for operation.
- 6. Move to site.
- 7. Establish safety zone.
- 8. Construct revetment, as required.
- 9. Displace equipment, as required.
- 10. Submit required reports.

### RELATED EVENTS:

| KETUIED EAGNID: |                |                |
|-----------------|----------------|----------------|
| 1302-SURV-1002  | 1310-ADMN-2004 | 1310-ADMN-2009 |
| 1310-ADMN-2010  | 1310-HEOP-2001 | 1310-HORZ-2001 |
| 1310-HORZ-2002  | 1310-HORZ-2003 | 1310-MANT-2002 |
| 1316-ADMN-2001  | 1316-ADMN-2002 | 1316-XENG-2002 |
| 1316-XENG-2005  | 1345-HEOP-1004 | 1345-HEOP-1005 |
| 1345-HEOP-1007  | 1345-HEOP-2006 | 1345-HEOP-2007 |
| 1345-HEOP-2012  | 1345-MANT-1001 | 1345-MANT-2001 |
| 1349-HEOP-2001  | 1349-HORZ-2001 | 1349-HORZ-2002 |
| 1349-HORZ-2003  | 1349-MANT-2002 | 1371-SURV-2001 |

#### REFERENCES:

- 1. GTA 05-08-001 Survivability Positions
- 2. JP 3-34 Joint Engineer Operations
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.5 Combined Arms Countermobility Operations
- 7. MCWP 3-17.6 Survivability
- 8. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 9. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 10. MCWP 3-41.1 Rear Area Operations
- 11. MCWP 4-11 Tactical-Level Logistics

### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Engineer equipment assets.

MATERIAL: Map, Compass, Protractor, Overlay sheets, Reconnaissance

reports, Class IV materials, as required.

## MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

ESB-SURV-3004: Construct crew served weapons position

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**<u>DESCRIPTION</u>**: Construct crew served weapons position to enable weapons to engage targets from front and oblique's.

CONDITION: Given an operations order, personnel, and engineer equipment.

<u>STANDARD</u>: That allows a weapons team the capability to engage targets from front and oblique's, and meets or exceeds the mission requirement and support the concept of operation in accordance with the commander's intent.

## **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Prepare equipment for operation.
- 3. Move to site.
- 4. Establish safety zone.
- 5. Dig emplacement, as required.
- 6. Displace equipment, as required.
- 7. Submit required reports.

### RELATED EVENTS:

| 1302-SURV-1002 | 1310-ADMN-2004 | 1310-ADMN-2009 |
|----------------|----------------|----------------|
| 1310-ADMN-2010 | 1310-HEOP-2001 | 1310-HORZ-2001 |
| 1310-HORZ-2002 | 1310-HORZ-2003 | 1310-MANT-2002 |
| 1316-ADMN-2001 | 1316-ADMN-2002 | 1316-XENG-2002 |
| 1316-XENG-2005 | 1345-HEOP-1004 | 1345-HEOP-1005 |
| 1345-HEOP-1007 | 1345-HEOP-2006 | 1345-HEOP-2007 |
| 1345-HEOP-2012 | 1345-MANT-1001 | 1345-MANT-2001 |
| 1349-HEOP-2001 | 1349-HORZ-2001 | 1349-HORZ-2002 |
| 1349-HORZ-2003 | 1349-MANT-2002 | 1371-SURV-2001 |

#### **REFERENCES:**

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17A Engineering Field Data
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.6 Survivability
- 6. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 7. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 8. MCWP 3-41.1 Rear Area Operations
- 9. MCWP 4-11 Tactical-Level Logistics

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Engineer equipment, Combat engineer tools & amp; kits.

MATERIAL: Map, Compass, Protractor, Overlay sheets, Reconnaissance reports, Class IV supplies as required.

#### **MISCELLANEOUS:**

**ADMINISTRATIVE INSTRUCTIONS: ORM.** 

ESB-SURV-3005: Construct overhead cover

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**<u>DESCRIPTION</u>**: Construct overhead cover that meets or exceeds the maximum threat capability of enemy weapons systems.

CONDITION: Given an operations order, personnel, and engineer equipment.

**STANDARD:** To design specifications that meets or exceeds the maximum threat capability of enemy weapons systems in accordance with the concept of operations.

## **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Design position required.
- 3. Determine material required.
- 4. Calculate time required for construction.
- 5. Prepare equipment for operation.
- 6. Move to site.
- 7. Establish safety zone.
- 8. Construct overhead cover, as required.
- 9. Displace equipment, as required.
- 10. Submit required reports.

# RELATED EVENTS:

| KEHATED BYEKID. |                |                |
|-----------------|----------------|----------------|
| 1302-SURV-1001  | 1310-ADMN-2004 | 1310-ADMN-2009 |
| 1310-ADMN-2010  | 1310-HEOP-2001 | 1310-MANT-2002 |
| 1316-ADMN-1001  | 1316-ADMN-1002 | 1316-ADMN-2001 |
| 1316-ADMN-2002  | 1316-XENG-1001 | 1316-XENG-1006 |
| 1316-XENG-2002  | 1345-HEOP-1003 | 1345-HEOP-1004 |
| 1345-HEOP-2007  | 1345-HEOP-2012 | 1345-MANT-1001 |
| 1345-MANT-2001  | 1349-ADMN-2004 | 1349-ADMN-2009 |
| 1349-ADMN-2010  | 1349-HEOP-2001 | 1349-MANT-2002 |
| 1371-SURV-1001  | 1371-SURV-2001 |                |

# REFERENCES:

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration

- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 8. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 9. MCWP 3-41.1 Rear Area Operations
- 10. MCWP 4-11 Tactical-Level Logistics

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Engineer equipment and combat engineer tools & kits.

<u>MATERIAL</u>: Map, Compass, Protractor, Overlay Sheets, Reconnaissance Reports, Class IV supplies as required.

## MISCELLANEOUS:

**ADMINISTRATIVE INSTRUCTIONS: ORM** 

ESB-SURV-3006: Construct individual fighting position

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Construct individual fighting positions and/or trenches to protect one or more dismounted Marines armed with individual weapons, while supporting their ability to engage the enemy. Fighting positions typically consist of a hole in the ground, supplemented with frontal, overhead, and flank or rear cover as the time and situation permits. Trenches typically connect fighting positions, C2 nodes and logistical hubs while providing cover from enemy observation and direct/indirect fire.

**CONDITION:** Given an operations order, personnel, and engineer equipment.

**STANDARD:** Positions are planned and designed so that they are concealed, mutually supporting, and have interlocking fields of fire in all directions and protect occupants against enemy direct-fire weapons systems.

# **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Prepare equipment for operation.
- 3. Move to site.
- 4. Establish safety zone.
- 5. Dig emplacement, as required.
- 6. Displace equipment, as required.
- 7. Submit required reports.

## RELATED EVENTS:

| 1302-SURV-1001 | 1310-ADMN-2004 | 1310-ADMN-2009 |
|----------------|----------------|----------------|
| 1310-ADMN-2010 | 1310-HEOP-2001 | 1310-MANT-2002 |
| 1345-HEOP-1003 | 1345-HEOP-1004 | 1345-HEOP-1005 |
| 1345-HEOP-2012 | 1345-MANT-1001 | 1371-SURV-1001 |
| 1371-SURV-2001 |                |                |

#### **REFERENCES:**

- 1. JP 3-34 Engineer Doctrine for Joint Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 8. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 9. MCWP 3-41.1 Rear Area Operations
- 10. MCWP 4-11 Tactical-Level Logistics

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Engineer equipment, Combat engineer tools & kits

<u>MATERIAL</u>: Map, Compass, Protractor, Overlay sheets, Reconnaissance reports, Class IV materials as required.

#### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

**ESB-SURV-3007:** Construct triggering screen

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Triggering screens are built separately or added on to existing structures and used to activate the fuze of an incoming shell or projectile at a designated standoff distance from the structure.

CONDITION: Given an operations order, personnel, and engineer equipment.

**STANDARD:** So that it provides an effective screen against enemy weapons systems.

- 1. Coordinate with supported unit.
- 2. Design position required.
- 3. Determine material required.
- 4. Calculate time required for construction.
- 5. Prepare equipment for operation.

- 6. Move to site.
- 7. Establish safety zone.
- 8. Construct blast screen, as required.
- 9. Displace equipment, as required.
- 10. Submit required reports.

1302-SURV-1001 1302-SURV-1002 1371-SURV-1001 1371-SURV-2001

#### REFERENCES:

- 1. JP 3-34 ENGINEER DOCTRINE FOR JOINT OPERATIONS
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.6 Survivability
- 7. MCWP 3-33 Military Operations Other Than War (MOOTW)
- 8. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 9. MCWP 3-41.1 Rear Area Operations
- 10. MCWP 4-11 Tactical-Level Logistics

### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

EQUIPMENT: Engineer equipment, Combat engineer tools & kits

MATERIAL: Map, Compass, Protractor, Overlay sheets, Reconnaissance reports, Class IV materials, as required.

## MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

ESB-SURV-3008: Construct vehicle fighting position

SUPPORTED MCT(S): MCT 6.1.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: Construct vehicle fighting position to increase vehicle survivability.

**CONDITION:** Given an operations order, personnel, engineer equipment, and materials.

**STANDARD:** That meets or exceeds the mission requirement for the specified vehicle/weapons system in accordance with the concept of operations.

# **EVENT COMPONENTS:**

1. Review the mission.

- 2. Coordinate with supported unit.
- 3. Prepare equipment for operation.
- 4. Move to site.
- 5. Establish safety zone.
- 6. Dig emplacement as required per vehicle type and weapon employment.
- 7. Displace equipment, as required.
- 8. Submit required reports.

| 1302-SURV-1002 | 1310-HEOP-2001 | 1310-HORZ-2001 |
|----------------|----------------|----------------|
| 1310-HORZ-2002 | 1310-HORZ-2003 | 1310-MANT-2002 |
| 1345-HEOP-1004 | 1345-HEOP-1005 | 1345-HEOP-1007 |
| 1345-HEOP-2006 | 1345-HEOP-2007 | 1345-HEOP-2012 |
| 1345-MANT-1001 | 1349-HEOP-2001 | 1349-HORZ-2001 |
| 1349-HORZ-2002 | 1349-HORZ-2003 | 1349-MANT-2002 |
| 1371-SURV-2001 |                |                |

#### **REFERENCES:**

- 1. MCRP 3-17A Engineering Field Data
- 2. MCWP 3-17 Engineering Operations
- 3. MCWP 3-17.6 Survivability
- 4. MCWP 3-41.1 Rear Area Operations

### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

**EQUIPMENT:** Engineer equipment assets.

#### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

**ESB-UTIL-3001:** Establish tactical power distribution system

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Provide power distribution equipment to establish a tactical electric grid in order to distribute electric power that meets operational requirement and commander's intent.

CONDITION: With a utilities plan, required equipment and personnel

**STANDARD:** To accomplish operational requirements and commander's intent.

- 1. Coordinate with supported unit(s).
- 2. Determine load requirements.
- 3. Plan power distribution system(s).
- 4. Set up distribution system(s).

- 5. Inspect grounding and connections.
- 6. Energize system(s).
- 7. Test system(s).

| 1141-ADMN-1002 | 1141-ADMN-1006 | 1141-MANT-1101 |
|----------------|----------------|----------------|
| 1141-MANT-1224 | 1141-MANT-2244 | 1141-XENG-1601 |
| 1141-XENG-1624 | 1141-XENG-1703 | 1141-XENG-2501 |
| 1141-XENG-2521 | 1141-XENG-2621 | 1141-XENG-2622 |
| 1141-XENG-2623 | 1141-XENG-2721 | 1141-XENG-2821 |
|                |                |                |

#### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. FM 5-424 Theater of Operations Electrical Systems
- 3. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 4. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

**EQUIPMENT:** Power Distribution Systems, Power Generation Systems, PPE, MHE, Motor Transport equipment, HazMat Containment Kit.

ESB-UTIL-3002: Provide floodlight support

SUPPORTED MCT(S): MCT 4.4.4

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**<u>DESCRIPTION</u>**: Provide illumination during low light conditions in order to meet mission requirements and commander's intent.

CONDITION: With an operational order, required equipment and personnel

STANDARD: To properly illuminate required area.

### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit(s).
- 2. Establish illumination plan.
- Set up floodlight set(s).
- 4. Operate a floodlight.

### RELATED EVENTS:

| 1141-ADMN-1006 | 1141-ADMN-1007 | 1141-ADMN-1008 |
|----------------|----------------|----------------|
| 1141-ADMN-1009 | 1141-MANT-1101 | 1141-MANT-1247 |
| 1141-XENG-1703 | 1141-XENG-1747 | 1141-XENG-2622 |

# REFERENCES:

1. FM 5-424 Theater of Operations Electrical Systems

2. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment

## SUPPORT REQUIREMENTS:

**EQUIPMENT:** PPE, tools and kits.

**ESB-UTIL-3003:** Establish power generation site(s)

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Provide power generation equipment to meet the operational requirement and commander's intent.

CONDITION: With a utilities plan, required equipment and personnel.

STANDARD: To ensure operational requirements are met.

## **EVENT COMPONENTS:**

- 1. Coordinate with supported unit(s).
- Set up generator site(s).
- 3. Inspect grounding and connections.
- 4. Energize system(s).
- Perform operational check(s).
- 6. Test system.

## RELATED EVENTS:

| 1141-ADMN-1006 | 1141-ADMN-1007 | 1141-ADMN-1008 |
|----------------|----------------|----------------|
| 1141-ADMN-1009 | 1141-MANT-1101 | 1141-XENG-1601 |
| 1141-XENG-1618 | 1141-XENG-1751 | 1141-XENG-1752 |
| 1141-XENG-1753 | 1141-XENG-1754 | 1141-XENG-1757 |
| 1141-XENG-1763 | 1141-XENG-1765 | 1141-XENG-1795 |
| 1141-XENG-2622 | 1141-XENG-2718 | 1141-XENG-2737 |
| 1141-XENG-2750 | 1141-XENG-2755 |                |

# REFERENCES:

- 1. Appropriate Technical Manuals
- 2. FM 5-424 Theater of Operations Electrical Systems
- 3. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 4. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light
Forces

**EQUIPMENT:** Power Generation Systems, PPE, MHE, Motor Transport equipment, HazMat Containment Kit.

ESB-UTIL-3004: Wire a structure for electricity

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: Install interior electrical wiring in order to distribute electricity to meet electrical power requirements.

CONDITION: Provided a mission, resources, required equipment, and personnel.

**STANDARD:** To establish operational power per commander's intent to support mission requirements.

#### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit(s).
- 2. Estimate and requisition materials, as required.
- 3. Calculate time required to wire structure.
- 4. Gather tools and materials.
- 5. Set safety zone, lockout and tagout any preexisting electrical circuits that will be worked on, as required.
- 6. Verify the location of preexisting underground utility lines.
- 7. Install electrical boxes, interior/exterior wiring, service feeder, service entrance cables and main and sub panel boxes, as required.
- 8. Install equipment and system grounding, as required.
- 9. Request qualified inspector to complete uncovered/rough-in electrical inspection.
- 10. Install devices, circuit breakers, fixtures and electrical equipment, as required.
- 11. Request qualified inspector to complete final electrical inspection.
- 12. Request qualified personnel to connect service feeder to appropriate transformer or power generation, as required.
- 13. Energize and test electrical system.
- 14. Submit required reports.

#### RELATED EVENTS:

| 1141-ADMN-1002 | 1141-ADMN-2031 | 1141-MANT-1101 |
|----------------|----------------|----------------|
| 1141-XENG-1601 | 1141-XENG-1703 | 1141-XENG-1961 |
| 1141-XENG-1962 | 1141-XENG-2561 | 1141-XENG-2622 |
| 1141-XENG-2623 | 1141-XENG-2694 | 1141-XENG-2696 |
| 1141-XENG-2963 | 1141-XENG-2964 | 1141-XENG-2965 |
| 1141-XENG-2966 |                |                |

## **REFERENCES:**

- 1. 29 CFR 1910.147 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 147 Control of Hazardous Energy (Lockout/Tagout)
- 2. 29 CFR 1910.269 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 269 Electrical Power Generation, Transmission, and Distribution
- 3. 29 CFR 1910.301-399 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Subpart S, (Standard Numbers 301-399) Electrical
- 4. FM 5-424 Theater of Operations Electrical Systems

5. NEC (NFPA 70) National Electrical Code - by National Fire Protection Association

# **SUPPORT REQUIREMENTS:**

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Electrical materials (as required), PPE, tools and kits.

### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Final inspection must be performed by a qualified inspector who is a graduate of one or more listed courses: Advanced Electrician (AE), Utilities Chief (UC), or Utilities Officer (UO) Course.

ESB-UTIL-3005: Provide Environmental Control Unit (ECU) support

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Utilize ECU equipment in order to provide adequate climate control for critical equipment that is sensitive to extreme temperatures.

CONDITION: With an operational order, required equipment and personnel

STANDARD: In accordance with the operational order.

## **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Establish ECU support plan.
- Install ECU(s).
- 4. Maintain ECU(s).

## RELATED EVENTS:

| 1161-ADMN-1006 | 1161-MANT-1211 | 1161-MANT-1218 |
|----------------|----------------|----------------|
| 1161-XENG-1611 | 1161-XENG-1614 | 1161-XENG-1634 |
| 1161-XENG-2541 | 1161-XENG-2618 | 1161-XENG-2641 |
| 1161-XENG-2741 |                |                |

## **REFERENCES:**

- 1. 40 CFR 82 Chapter 40, Code of Federal Regulations, Part Number 82 (Protection of Stratospheric Ozone)
- 2. 42 USC 85 VI 7671 Title 42, United States Code, Chapter 85, Subchapter VI, Section 7671 (Ozone Protection)
- 3. MCO 5090.1 Chlorofluorocarbons (CFC's) and Halons
- 4. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

**EQUIPMENT:** PPE, power generation, distribution, ECU equipment, maintenance equipment as required

ESB-UTIL-3006: Provide refrigeration support

SUPPORTED MCT(S): MCT 4.4.4

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Provide refrigeration for cooling and freezing.

CONDITION: With an operational order, required equipment and personnel.

STANDARD: In accordance with the operational order.

### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit.
- 2. Setup refrigeration unit(s).
- 3. Maintain refrigeration unit(s).
- 4. Recover refrigeration unit(s).

### RELATED EVENTS:

1161-ADMN-1006 1161-MANT-1235 1161-XENG-1635 1161-XENG-2541 1161-XENG-2642 1161-XENG-2741

#### REFERENCES:

- 1. 40 CFR 82 Chapter 40, Code of Federal Regulations, Part Number 82 (Protection of Stratospheric Ozone)
- 2. 42 USC 85 VI 7671 Title 42, United States Code, Chapter 85, Subchapter VI, Section 7671 (Ozone Protection)
- 3. MCO 5090.1 Chlorofluorocarbons (CFC's) and Halons
- 4. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment

# SUPPORT REQUIREMENTS:

## RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

**EQUIPMENT:** PPE, power generation equipment, ECUs, distribution, maintenance equipment as required.

**ESB-UTIL-3007**: Produce potable water

**SUPPORTED MCT(S): MCT 4.4.3** 

EVALUATION-CODED: YES SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Produce and store, potable water in order to meet mission

requirements.

CONDITION: With a utilities plan, required equipment and personnel.

STANDARD: To ensure operational requirements are met.

## **EVENT COMPONENTS:**

- 1. Perform water recon.
- 2. Establish water point.
- 3. Produce potable water.
- 4. Test water for potability.

### RELATED EVENTS:

| 1171-ADMN-1006 | 1171-ADMN-1007 | 1171-ADMN-1008 |
|----------------|----------------|----------------|
| 1171-ADMN-1009 | 1171-MANT-1282 | 1171-XENG-1604 |
| 1171-XENG-1782 | 1171-XENG-2501 | 1171-XENG-2502 |
| 1171-XENG-2553 | 1171-XENG-2651 | 1171-XENG-2653 |
| 1171-XENG-2752 | 1171-XENG-2753 | 1171-XENG-2754 |
| 1171-XENG-2853 |                |                |

#### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 5. TB MED 577 Occupational and Environmental Health Sanitary Control and Surveillance of Field Water Supplies

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17924 Water Supply Training Area

**EQUIPMENT:** Utilities equipment with supplemental kits (cartridges, NBC filters etc.), MHE, water testing kit, tool kits, PPE

**MATERIAL:** Chemicals to purify raw water source.

UNITS/PERSONNEL: Note: Request Navy Medical Technician and Preventive
Medicine Technician (PMT) as required.

**ESB-UTIL-3008:** Store potable water

SUPPORTED MCT(S): MCT 4.4.3

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

DESCRIPTION: Store potable water in order to meet mission requirements.

CONDITION: With a utilities plan, required equipment and personnel.

STANDARD: To ensure operational requirements are met.

- 1. Determine storage requirements.
- Establish storage site(s).
- 3. Test water for potability.
- 4. Store water for distribution.

#### PREREQUISITE EVENTS:

| 1171-ADMN-1006 | 1171-ADMN-1007 | 1171-ADMN-1008 |
|----------------|----------------|----------------|
| 1171-MANT-1241 | 1171-MANT-1248 | 1171-MANT-1277 |
| 1171-MANT-1278 | 1171-MANT-1284 | 1171-MANT-1285 |
| 1171-XENG-1677 | 1171-XENG-1678 | 1171-XENG-1684 |
| 1171-XENG-1685 | 1171-XENG-1702 | 1171-XENG-2553 |
| 1171-XENG-2653 | 1171-XENG-2752 | 1171-XENG-2753 |
| 1171-XENG-2853 |                |                |
|                |                |                |

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 5. TB MED 577 Occupational and Environmental Health Sanitary Control and Surveillance of Field Water Supplies

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17924 Water Supply Training Area

MATERIAL: Chemicals to sustain potable water.

<u>UNITS/PERSONNEL</u>: Note: Request Navy Medical Technician and Preventive Medicine Technician (PMT), as required.

**ESB-UTIL-3009:** Establish water distribution site

SUPPORTED MCT(S): MCT 4.4.3

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**DESCRIPTION:** Establish an accessible potable water distribution site for the supported unit in order to meet mission requirements.

**CONDITION:** With a utilities plan, required equipment and personnel.

STANDARD: To ensure operational requirements are met.

- 1. Determine water requirements.
- Set up distribution system(s).
- 3. Inspect system(s).
- 4. Test water for potability.
- 5. Distribute potable water.

| RELATED EVENTS: |                |                |
|-----------------|----------------|----------------|
| 1171-ADMN-1006  | 1171-ADMN-1007 | 1171-ADMN-1008 |
| 1171-ADMN-1009  | 1171-MANT-1241 | 1171-MANT-1248 |
| 1171-MANT-1271  | 1171-MANT-1272 | 1171-MANT-1274 |
| 1171-MANT-1277  | 1171-MANT-1278 | 1171-MANT-1279 |
| 1171-MANT-1280  | 1171-MANT-1284 | 1171-MANT-1285 |
| 1171-XENG-1648  | 1171-XENG-1677 | 1171-XENG-1678 |
| 1171-XENG-1680  | 1171-XENG-1684 | 1171-XENG-1685 |
| 1171-XENG-1702  | 1171-XENG-1748 | 1171-XENG-1771 |
| 1171-XENG-1772  | 1171-XENG-1774 | 1171-XENG-1779 |
| 1171-XENG-2752  | 1171-XENG-2753 | 1171-XENG-2754 |
| 1171-XENG-2853  |                |                |

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 5. TB MED 577 Occupational and Environmental Health Sanitary Control and Surveillance of Field Water Supplies

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17924 Water Supply Training Area

EQUIPMENT: Utilities equipment, water testing kit, PPE, MHE, motor

transport, tool kits, appropriate POLs

MATERIAL: Chemicals to sustain potable water.

<u>UNITS/PERSONNEL</u>: Note: Request Navy Medical Technician and Preventive Medicine Technician (PMT) as required.

ESB-UTIL-3010: Provide laundry services

SUPPORTED MCT(S): MCT 4.4.4

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**DESCRIPTION:** Provide laundry services to meet mission requirements and commander's intent.

CONDITION: With a utilities plan, required equipment and personnel.

**STANDARD:** To ensure operational requirements are met.

## **EVENT COMPONENTS:**

- 1. Coordinate with supported unit(s).
- 2. Establish laundry facilities.
- 3. Implement laundry schedule.
- 4. Operate laundry unit(s).

## RELATED EVENTS:

| 1171-ADMN-1006 | 1171-ADMN-1007 | 1171-ADMN-1008 |
|----------------|----------------|----------------|
| 1171-ADMN-1009 | 1171-MANT-1232 | 1171-MANT-1278 |
| 1171-MANT-1284 | 1171-MANT-1285 | 1171-XENG-1632 |
| 1171-XENG-1678 | 1171-XENG-1684 | 1171-XENG-1685 |
| 1171-XENG-1732 | 1171-XENG-2555 | 1171-XENG-2655 |
| 1171-XENG-2755 |                |                |

#### REFERENCES:

1. MCRP 4-11.1D Field Hygiene and Sanitation

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

**EQUIPMENT:** Utilities equipment, PPE, MHE, motor transport, tool kits

MATERIAL: Laundry detergent, gravel, lime, insecticide

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Note: Water does not have to be completely potable-untreated Class III fresh water can be utilized.

ESB-UTIL-3011: Provide shower services

SUPPORTED MCT(S): MCT 4.4.3

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**DESCRIPTION:** Provide shower services to meet mission requirements and commanders intent.

CONDITION: With a utilities plan, required equipment and personnel.

**STANDARD:** To ensure operational requirements are met.

# **EVENT COMPONENTS:**

- 1. Coordinate with supported unit(s).
- 2. Establish shower facilities.
- 3. Implement shower schedule.
- 4. Operate shower unit(s).

### RELATED EVENTS:

| 1171-ADMN-1006 | 1171-ADMN-1007 | 1171-ADMN-1008 |
|----------------|----------------|----------------|
| 1171-ADMN-1009 | 1171-MANT-1231 | 1171-MANT-1278 |
| 1171-XENG-1631 | 1171-XENG-1678 | 1171-XENG-1731 |
| 1171-XENG-2555 | 1171-XENG-2655 | 1171-XENG-2755 |
| 1171-XENG-2855 |                |                |

## REFERENCES:

1. MCRP 4-11.1D Field Hygiene and Sanitation

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light Forces

**EQUIPMENT:** Utilities equipment, PPE, MHE, motor transport, tool kits, POLs.

MATERIAL: Building material, cleaning supplies, lime, insecticide, gravel

UNITS/PERSONNEL: Note: Water must be potable (class I) for showers.

ESB-UTIL-3012: Install plumbing in a structure

SUPPORTED MCT(S): MCT 4.4.3

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Install piping system in order to meet plumbing requirements and commanders intent.

CONDITION: Provided a mission, resources, required equipment, and personnel.

**STANDARD:** To establish water and sewer services per commanders intent to support mission requirements.

#### **EVENT COMPONENTS:**

- 1. Coordinate with supported unit(s).
- 2. Estimate and requisition materials, as required.
- 3. Calculate time required to plumb structure.
- 4. Gather tools and materials.
- 5. Set safety zone.
- 6. Verify the location of preexisting underground utility lines.
- 7. Install interior/exterior drainage plumbing system with appropriately sized vent(s), trap(s) and cleanout(s).
- 8. Pressurize drainage system to identify possible leaks.
- Install hot and cold water supply lines with shut-off and relief valve(s), as required.
- 10. Request qualified inspector to complete uncovered/rough-in plumbing inspection.
- 11. Install plumbing fixtures.
- 12. Request qualified personnel to install water meter and shut-off valve, as required.
- 13. Connect structure main water supply line to water meter, as required.
- 14. Request qualified personnel to install sewer/septic system, as required.
- 15. Connect structure main sanitation pipe(s) to sewer/septic system, as required.
- 16. Request qualified inspector to complete final plumbing inspection.
- 17. Submit required reports.

## RELATED EVENTS:

| 1171-ADMN-1006 | 1171-ADMN-1007 | 1171-ADMN-1008 |
|----------------|----------------|----------------|
| 1171-ADMN-1009 | 1171-MANT-1231 | 1171-MANT-1278 |

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| 1171-XENG-1631    | 1171-XENG-1678 | 1171-XENG-1731 |
|-------------------|----------------|----------------|
| 1171-XENG-2555    | 1171-XENG-2655 | 1171-XENG-2755 |
| 1101 ******* 0055 |                |                |

1171-XENG-2855

## **REFERENCES:**

1. UPC (IAPMO/ANSI) Uniform Plumbing Code - by International Association of Plumbing and Mechanical Officials/American National Standard Institute

# SUPPORT REQUIREMENTS:

**EQUIPMENT:** PPE, tools and kits

MATERIAL: Building materials

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Final inspection must be performed by a qualified inspector who is a graduate of one or more listed courses: Advanced Water Support Technician (AWST), Utilities Chief (UC), or Utilities Officer (UO) Course.

# ENG & UTIL T&R MANUAL

# CHAPTER 7

# MOS 1120 INDIVIDUAL EVENTS

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## ENG & UTIL T&R MANUAL

#### CHAPTER 7

#### MOS 1120 INDIVIDUAL EVENTS

**7000. PURPOSE.** This chapter details the individual events that pertain to the Utilities Officer. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful.

**7001. EVENT CODING.** Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX. This chapter utilizes the following methodology

a. Field one. This field represents the community. This chapter contains the following community codes:

b. Field two. This field represents the functional/duty area. This chapter contains the following functional/duty areas:

Code Description
ADMN Administration
XENG General Engineering

c. Field three

Code

- (1) The first digit of this field provides the level at which the event is accomplished. The following event levels are used:

Description

(2) As the Task Analyst/Advocate has deemed appropriate the second digit of this field represents a sub-function to that duty area identified in field two. The following sub-functions are used in this chapter:

X0XX Administrative
X5XX Planning
X6XX Equipment set up
X7XX Equipment operation
X8XX Equipment recovery
X9XX Electrician/Plumber (tradesman) duty based on requirements in the National Electrical Code (NEC) or Uniform Plumbing Code (UPC), etc.

(3) The last two digits of this field are used to identify and categorize like events or equipment across all MOSs of the OccFld (see Chapters 7 through 12), or are just numerical sequencing of events. Following are **some** examples of the categories used:

### Code Description

- X002 Core and Core Plus Skills related to controlling hazardous energy. See: 1120-ADMN-2002, 1141-ADMN-1002, 1142-ADMN-1002, 1161-ADMN-1002, 1169-ADMN-2002 and 1171-ADMN-1002.
- X012 Core and Core Plus Skills related to NAVMC 10772 initiation, validation and submission. See: 1120-ADMN-2012, 1141-ADMN-1012, 1142-ADMN-1012, 1161-ADMN-1012, 1169-ADMN-2012 and 1171-ADMN-1012.
- 2023 Core Plus advanced level MOS training program functions. See: 1120-ADMN-2023, 1141-ADMN-2023, 1142-ADMN-2023, 1161-ADMN-2023, 1169-ADMN-2023 and 1171-ADMN-2023.
- 206X Core Plus advanced level supply support functions. See: 1120-ADMN-2061, 1120-ADMN-2062, 1120-ADMN-2063, 1120-ADMN-2064, 1120-ADMN-2065, 1141-ADMN-2061, 1141-ADMN-2062, 1142-ADMN-2061, 1142-ADMN-2062, 1161-ADMN-2061, 1169-ADMN-2061, 1169-ADMN-2062, 1169-ADMN-2063, 1169-ADMN-2064, 1169-ADMN-2065, 1171-ADMN-2061, and 1171-ADMN-2062.
- 2X58 Core Plus Skills related to field sanitation. See: 1120-XENG-2558, 1120-XENG-2658, 1120-XENG-2758, 1120-XENG-2858, 1169-XENG-2858, 1169-XENG-2658, 1169-XENG-2758, 1169-XENG-2858, 1171-XENG-2658, and 1171-XENG-2858.

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## 7003. 2000-EVEL EVENTS

1120-ADMN-2001: Manage Operational Risk (ORM)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

CONDITION: With a task/mission, a Risk Management Worksheet, and references.

**STANDARD:** So task/mission effectiveness is increased while loss of personnel and materiel is minimized through the implementation of risk management controls.

## PERFORMANCE STEPS:

- 1. Identify task/mission requirements.
- 2. Review references.
- 3. Identify hazards, recording them on Risk Management Worksheet.
- 4. Assess severity and probability of hazards to determine risk levels.
- 5. Develop risk control measures.
- 6. Make risk decisions.
- 7. Supervise implementation of controls.
- 8. Periodically review task/mission, hazards and controls.

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PREREQUISITE EVENTS: 1169-ADMN-2001

RELATED EVENTS:

1141-ADMN-1001 1142-ADMN-1001 1161-ADMN-1001

1171-ADMN-1001

## REFERENCES:

1. Appropriate Technical Manuals

- 2. DoDI 6055.1 DoD Safety and Occupational Health (SOH) Program
- 3. FM 5-19 Composite Risk Management
- 4. MCO 3500.27\_ Operational Risk Management (ORM)
- 5. MCO 5100.29 Marine Corps Safety Program
- 6. OPNAVINST 3500.39 Operational Risk Management

## SUPPORT REQUIREMENTS:

MATERIAL: Risk Management Worksheet.

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Initial training for this event is received in the Utilities Chief course (CID: M0311E2). Risk assessment is taught at all basic MOS producing courses in the Occupational Field.

1120-ADMN-2002: Administer a Lockout/Tagout Program

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** In a shop setting or field environment, with personnel, equipment, equipment manuals, Lockout/Tagout devices, forms, and references.

**STANDARD:** So prior to personnel performing maintenance, service, repair, or modification to equipment, the equipment shall be locked out or tagged out to protect against accidental or inadvertent start-up, or operation that may cause injury to personnel.

## PERFORMANCE STEPS:

- 1. Review references.
- 2. Evaluate Lockout/Tagout Program using NAVMC 11402 (annual requirement).
- 3. Ensure availability of an ample supply of locks and tags.
- 4. Review/approve Lockout/Tagout Checklists, NAVMC 11403.
- 5. Maintain Lockout/Tagout Log, NAVMC 11404.
- 6. Control issue of Lockout/Tagout devices to authorized workers.
- 7. Ensure timely return of Lockout/Tagout devices.

PREREQUISITE EVENTS: 1169-ADMN-2002

RELATED EVENTS:

1141-ADMN-1002 1142-ADMN-1002 1161-ADMN-1002

1171-ADMN-1002

## REFERENCES:

1. Appropriate Technical Manuals

- 2. 29 CFR 1910.147 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 147 Control of Hazardous Energy (Lockout/Tagout)
- 3. NAVMC DIR 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Program Manual
- 4. Unit SOP Unit's Standing Operating Procedures

## SUPPORT REQUIREMENTS:

#### MATERIAL:

Lockout/Tagout devices

NAVMC 11402 (Lockout/Tagout Program Evaluation)

NAVMC 11403 (Lockout/Tagout Checklist)

NAVMC 11404 (Lockout/Tagout Log)

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: NAVMC Dir 5100.8, Chapter 12, provides detailed instructions for this event. Initial training for this event is received in the Utilities Chief course (CID: M0311E2). Control of hazardous energy (Lockout/Tagout) is taught at all basic MOS producing courses in the Occupational Field.

1120-ADMN-2003: Recover an electric shock victim

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**BILLETS:** Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a situation and without references.

STANDARD: So danger to personnel is eliminated and victim is cared for.

#### PERFORMANCE STEPS:

- 1. Evaluate situation.
- 2. Send for help.
- 3. Provide for personal protection.
- 4. Isolate victim from electrical source.
- 5. Evaluate victim.
- 6. Start artificial resuscitation (if necessary).
- 7. Remain with victim until medical help arrives.
- 8. Report incident.

RELATED EVENTS:

1141-ADMN-1003 1142-ADMN-1003 1161-ADMN-1003

1169-ADMN-2003 1171-ADMN-1003

## REFERENCES:

1. MCRP 3-02G First Aid

- 2. MCRP 3-17.7K Theater of Operations Electrical Systems
- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 4. TM 2000-15/4 Power System Reference Manual
- 5. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

## SUPPORT REQUIREMENTS:

## MATERIAL:

Ropes

Brooms, mops or tree branches

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Recovery of an electric shock victim is taught at all basic MOS producing courses in the Occupational Field.

1120-ADMN-2004: Respond to a hazardous materials spill

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Given a situation and without references.

STANDARD: So the spill is contained, reported, and cleaned up.

## PERFORMANCE STEPS:

- 1. Evacuate immediate area (if necessary).
- 2. Provide for personal protection.
- 3. Contain spill.
- 4. Report spill.
- 5. Remove uncontaminated material.
- 6. Dispose of hazardous material.

### RELATED EVENTS:

1141-ADMN-1004 1142-ADMN-1004 1161-ADMN-1004 1169-ADMN-2004 1171-ADMN-1004

- 1. INSTALLATION SOP Installation's Standing Operating Procedures
- 2. MCO 4450.12\_ Storage and Handling of Hazardous Materials

- 3. MCO P5090.2\_ Environmental Compliance and Protection Manual
- 4. MCRP 4-11B Environmental Considerations

## SUPPORT REQUIREMENTS:

MATERIAL: Spill containment kit

#### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: MCO 4450.12A, Chapter 7 and MCRP 4-11B, Appendix J, Tab A provide detailed information for this event. Responding to a hazardous materials spill is taught at all basic MOS producing courses in the Occupational Field.

1120-ADMN-2005: Administer first aid for chemical ingestion/contact

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a situation and Material Safety Data Sheets (MSDS).

STANDARD: So effect of the chemical is mitigated and victim is cared for per the MSDS and MCRP 3-02G.

## PERFORMANCE STEPS:

- 1. Protect yourself and other personnel.
- 2. Send for help.
- 3. Review Material Safety Data Sheet (MSDS).
- 4. Provide for personal protection (if required).
- 5. Give first aid.
- 6. Remain with victim until medical help arrives.
- 7. Report incident.

#### RELATED EVENTS:

1141-ADMN-1005 1142-ADMN-1005 1161-ADMN-1005 1169-ADMN-2005 1171-ADMN-1005

### **REFERENCES:**

1. MCRP 3-02G First Aid

#### SUPPORT REQUIREMENTS:

MATERIAL: Material Safety Data Sheet (MSDS) file

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: MCRP 3-02G, Chapter 7 provides detailed information for this event. First aid for chemical ingestion/contact is

taught at all basic MOS producing courses in the Occupational Field.

<u>1120-ADMN-2006</u>: Monitor publications control

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With unit's Publications Listing (PL), access to publications websites and management systems, and references.

**STANDARD:** So required publications are available to maintain section's operational capabilities and readiness.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Identify publication requirements based on mission and T/O&E.
- 3. Audit section's PL.
- 4. Validate on-hand publications inventory.
- 5. Inspect section's library for missing or outdated publications.
- 6. Verify published changes are made to publications.
- 7. Evaluate control procedures.
- 8. Evaluate NAVMC 10772 procedures.
- 9. Correct deficiencies.

PREREQUISITE EVENTS: 1169-ADMN-2006

**RELATED EVENTS:** 1120-ADMN-2012

## **REFERENCES:**

- $\overline{1}$ . MCO  $\overline{4400.120}$  Joint Regulation Governing the Use and Application of Uniform Source Maintenance and Recoverability Codes
- 2. MCO 5215.1\_ Marine Corps Directives Management Program
- 3. MCO 5600.20\_ Marine Corps Doctrinal Publications System
- 4. MCO 5600.31 Marine Corps Printing and Publishing Regulations
- 5. MCO P4790.2\_ MIMMS Field Procedures Manual
- 6. MCO P5215.17\_ The Marine Corps Technical Publications System
- 7. SECNAV M-5210.2\_ Department of the Navy Standard Subject Identification Code (SSIC) Manual
- 8. SL-1-2/SL-1-3 Index of Publications Stocked by the USMC
- 9. UNIT SOP Unit's Standing Operating Procedures
- 10. Unit T/O&E Unit's Table of Organization and Equipment

## SUPPORT REQUIREMENTS:

MATERIAL: Unit's Publication Listing (PL)

OTHER SUPPORT REQUIREMENTS: Internet access, with a CAC card, is required in order to complete this event.

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Initial training for this event is received in the Utilities Chief course (CID: M0311E2).

1120-ADMN-2007: Validate equipment SL-3 Components List/Basic Issue Items (BII) inventories

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Platoon Commander, Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

CONDITION: With personnel, equipment, and references.

<u>STANDARD</u>: So serviceability of equipment and accountability of all components is maintained per the SL-3 Components/Basic Issue Items (BII) List and TM 4700-15/1H.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review item inventory requirements (SL-3 Components List or TM listing Basic Issue Items [BII]).
- 3. Schedule inventories.
- 4. Validate inventories.
- 5. Ensure deficiencies are requisitioned/acquired.
- 6. Ensure inventories are documented.

PREREQUISITE EVENTS: 1169-ADMN-2007

## RELATED EVENTS:

1141-ADMN-1007 1142-ADMN-1007 1161-ADMN-1007 1171-ADMN-1007

## REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 3. SI 10510-OR/1 Tool Warranty/Replacement Instructions for Using the USMC ServMart
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. UNIT SOP Unit's Standing Operating Procedures

#### SUPPORT REQUIREMENTS:

MATERIAL: SL-3/BII inventory sheets.

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: TM 4700-15/1H, Chapter 2, Section 6 provides detailed information for this event. Conducting SL-3/BII inventories is

taught at all basic MOS producing courses in the Occupational Field.

**1120-ADMN-2012:** Validate a NAVMC 10772

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: NAVMC 10772 is Recommended Change to Technical Publications/Logistics-Maintenance Data Coding.

BILLETS: Platoon Commander, Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

CONDITION: With a completed/draft NAVMC 10772 and references.

<u>STANDARD</u>: So corrections/improvements to publications are affected per TM 4700-15/1H and MCO P5215.17C.

## PERFORMANCE STEPS:

- 1. Review references.
- 2. Audit NAVMC 10772.
- 3. Review affected technical manual to verify recommended change will correct the error/deficiency.
- 4. If applicable, approve Part II with signature and date.
- 5. Forward NAVMC 10772 per Unit's SOP (on line if applicable).

PREREQUISITE EVENTS: 1169-ADMN-2012

**RELATED EVENTS:** 1120-ADMN-2006

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO P5215.17\_ The Marine Corps Technical Publications System
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures
- 4. UNIT SOP Unit's Standing Operating Procedures

#### SUPPORT REQUIREMENTS:

<u>MATERIAL</u>: NAVMC 10772 (Recommended Change to Technical Publications/Logistics-Maintenance Data Coding)

OTHER SUPPORT REQUIREMENTS: Internet access, with a CAC card, may be required in order to complete this event per Unit's SOP. The website: https://portal.logcom.usmc.mil/sites/pubs/Site%20Pages/NAVMC10772RFC.aspx.

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: TM 4700-15/1H, Chapter 2, Section 23 provides detailed information for this event. Initial training for this event is received in the Utilities Chief course (CID: M0311E2).

1120-ADMN-2021: Enforce safety programs

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

CONDITION: With resources and references.

**STANDARD:** So applicable safety measures and procedures are in place and adhered to.

## PERFORMANCE STEPS:

- 1. Review references.
- 2. Validate equipment safety requirements.
- 3. Validate personnel safety requirements.
- 4. Validate Operational Risk Assessments.
- 5. Implement safety procedures.
- 6. Monitor safety awareness training.
- 7. Monitor safety programs.
- 8. Enforce safety regulations.
- 9. Provide input for/submit required reports.

## PREREQUISITE EVENTS:

1120-ADMN-2001 1120-ADMN-2002 1169-ADMN-2021

#### REFERENCES:

- 1. DoDI 6055.1 DoD Safety and Occupational Health (SOH) Program
- 2. MCO 3500.27\_ Operational Risk Management (ORM)
- 3. MCO 5100.19\_ Marine Corps Traffic Safety Program (Drivesafe)
- 4. MCO 5100.29\_ Marine Corps Safety Program
- 5. MCO 5100.30\_ Marine Corps Recreation and Off-Duty Safety (RODS) Program
- 6. MCO 5100.34\_ Deadline Safety of Use Message Instructions to Suspend

Operations of Marine Corps Ground Equipment and Weapons Systems and Safety of Use Alerts

- 7. MCO 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Policy Order
- 8. MCO 5104.2\_ Marine Corps Radiofrequency Electromagnetic Field Personnel Protection Program
- 9. MCO 5104.3\_ Marine Corps Radiation Safety Program
- 10. MCO P5102.1\_ Navy and Marine Corps Mishap and Safety Investigation Reporting and Record Keeping Manual
- 11. NAVMC DIR 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Program Manual
- 12. OPNAVINST 5100.23\_ Navy Safety and Occupational Health (SOH) Program Manual
- 13. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 14. UNIT SOP Unit's Standing Operating Procedures

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Initial training for this event is received in the Utilities Chief course (CID: M0311E2).

1120-ADMN-2022: Enforce environmental regulations

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

CONDITION: With references.

STANDARD: So environmental policies and procedures are adhered to.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Inspect section's compliance with applicable environmental regulations and restrictions.
- 3. Manage platoon/section hazardous material disposal program.
- 4. Manage hazardous materials storage areas.
- 5. Inspect Material Safety Data Sheets (MSDS).
- 6. Report any situations that require reporting.
- 7. Conduct environmental regulations compliance planning for unit field operations.
- 8. Provide input for unit SOPs and environmental impact statements.

#### PREREQUISITE EVENTS:

1120-ADMN-2004 1169-ADMN-2022

#### **REFERENCES:**

- 1. INSTALLATION SOP Installation's Standing Operating Procedures
- 2. MCO 4450.12\_ Storage and Handling of Hazardous Materials
- 3. MCO P5090.2 Environmental Compliance and Protection Manual
- 4. MCRP 4-11B Environmental Considerations
- 5. OPNAVINST 5090.1\_ Environmental Readiness Program Manual

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Initial training for this event is received in the Utilities Chief course (CID: M0311E2).

1120-ADMN-2023: Manage MOS training program

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** MOS is Military Occupational Specialty.

BILLETS: Platoon Commander, Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

CONDITION: With training resources, records, and references.

STANDARD: So MOS proficiency is maintained.

## PERFORMANCE STEPS:

- 1. Review references.
- 2. Verify individual training requirements (review T&R Manual and MOS Roadmaps).
- 3. Verify unit training requirements (review unit METL/Commander's intent).
- 4. Develop training program policies and procedures.
- 5. Validate on the job and sustainment training requirements by grade and  ${\tt MOS}$ .
- 6. Plan MOS training program (considering apprenticeship programs).
- 7. Review lesson plans.
- 8. Review training methods/aids/materials.
- 9. Schedule MOS sustainment training.
- 10. Develop Letter of Instruction (LOI).
- 11. Ensure training is conducted.
- 12. Ensure lesson plans are maintained.
- 13. Ensure training is documented.
- 14. Evaluate training.
- 15. Encourage use of self-directed study and assist in providing resources.

#### PREREQUISITE EVENTS: 1169-ADMN-2023

## REFERENCES:

- 1. DoDD 1322.18 Military Training
- 2. MCO 1553.1\_ The Marine Corps Training and Education System
- 3. MCO 1553.2 Management of Marine Corps Formal Schools and Training Detachments
- 4. MCO 1553.3\_ Unit Training Management (UTM) Program
- 5. MCO 1553.4\_ Professional Military Education (PME)
- 6. MCO 1553.6\_ Development, Management, and Acquisition of Interactive Courseware (ICW) for Marine Corps Instruction
- 7. MCO 1560.25\_ Marine Corps Lifelong Learning Program
- 8. MCO 3500.26 Universal Naval Task List (UNTL) Version 3.0
- 9. MCO P3500.72\_ Marine Corps Ground Training and Readiness (T&R) Program
- 10. MCRP 3-0A Unit Training Management Guide
- 11. MCRP 3-0B How to Conduct Training
- 12. NAVMC 1553.1\_ Systems Approach to Training (SAT) Users Guide
- 13. NAVMC 3500.12\_ Marine Corps Engineer and Utilities Training and Readiness Manual
- 14. OPNAVINST 1560.10\_ Administration of the United Services Military Apprenticeship Program (USMAP)  $\,$
- 15. UNIT SOP Unit's Standing Operating Procedures

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Initial training for this event is received in the Utilities Chief course (CID: M0311E2).

1120-ADMN-2031: Brief utilities safety to end users

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: With utilities support (electrical, air conditioning, refrigeration, water, hygiene and/or sanitation) plan(s), sample warning signs, and references.

**STANDARD:** So "Off Limit" areas, meaning of warning signs, prohibited equipment and reasons, prohibited practices, emergency procedures, and unsafe conditions are identified and addressed.

## PERFORMANCE STEPS:

- 1. Review support plans and references.
- 2. Identify prohibited equipment.
- 3. Identify prohibited practices.
- 4. Identify unsafe conditions.
- 5. Identify "Off Limit" areas.
- 6. Identify emergency procedures.
- 7. Assemble briefing notes and materials.
- 8. Deliver brief.
- 9. Monitor utilities safety compliance.

## PREREQUISITE EVENTS:

1120-ADMN-2001 1169-ADMN-2031

# RELATED EVENTS:

1120-ADMN-2002 1120-ADMN-2003 1120-ADMN-2021

- 1. Appropriate Technical Manuals
- 2. 29 CFR 1910.269 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 269 Electrical Power Generation, Transmission, and Distribution
- 3. 29 CFR 1910.301-399 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Subpart S, (Standard Numbers 301-399) Electrical
- 4. ATTP 5-0.1 Commander and Staff Officer Guide
- 5. DoDI 6055.1 DoD Safety and Occupational Health (SOH) Program
- 6. FM 10-52 Water Supply in Theaters of Operation
- 7. FM 10-52-1 Water Supply Point Equipment and Operations
- 8. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 9. MCO 3500.27\_ Operational Risk Management (ORM)
- 10. MCO 5100.29\_ Marine Corps Safety Program
- 11. MCRP 3-17.7K Theater of Operations Electrical Systems
- 12. MCRP 4-11.1D Field Hygiene and Sanitation
- 13. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 14. NAVMC DIR 5100.8\_ Marine Corps Occupational Safety and Health (OSH)

#### Program Manual

- 15. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- $16.\ \mathrm{NEC}\ (\mathrm{NFPA}\ 70)$  National Electrical Code by National Fire Protection Association
- 17. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 18. TB MED 593 Guidelines for Field Waste Management

#### SUPPORT REQUIREMENTS:

MATERIAL: Sample warning signs.

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Initial training for this event is received in the Utilities Chief course (CID: M0311E2).

1120-ADMN-2041: Validate a PQDR

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** PQDR is Product Quality Deficiency Report (SF 368).

BILLETS: Platoon Commander, Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With a completed Product Quality Deficiency Report (PQDR), access to the defective item, and references.

**STANDARD:** So deficiency is reported.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Ensure deficiency requires a PQDR.
- 3. Determine if deficiency is Category I or Category II.
- 4. Verify exhibit is controlled (if required).
- 5. Audit DD Forms 1575 and 2332 (if required).
- 6. Audit PQDR (SF 368).
- 7. Ensure PQDR is submitted to the Marine Corps PQDR Screening Point.

#### **PREREQUISITE EVENTS:** 1169-ADMN-2041

- 1. Appropriate Technical Manuals
- 2. MCO 4400.120\_ Joint Regulation Governing the Use and Application of Uniform Source Maintenance and Recoverability Codes
- 3. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
- 4. MCO 4855.10\_ Product Quality Deficiency Report (PQDR)
- 5. MCO P4400.150\_ Consumer Level Supply Policy Manual

- 6. MCO P4400.82\_ Regulated/Controlled Item Management Manual
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures
- 8. UNIT SOP Unit's Standing Operating Procedures

## SUPPORT REQUIREMENTS:

#### MATERIAL:

DD Form 1575 (Suspended Tag - Materiel)

DD Form 2332 (Product Quality Deficiency Report Exhibit)

SF 368 (Product Quality Deficiency Report [PQDR])

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Initial training for this event is received in the Utilities Chief course (CID: M0311E2). Additional information for this event can be found at http://www.logcom.usmc.mil/pqdr.

1120-ADMN-2043: Initiate an UNS

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 24 months

DESCRIPTION: An UNS is a Universal Need Statement.

**BILLETS:** Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With internet access and Common Access Card (CAC), or a Universal Need Statement (NAVMC 11475), and references.

 $\underline{\mathtt{STANDARD}}$ : So a capabilities shortfall and proposed solution(s) are documented for decision/action at the flag (General) officer level per MCO 3900.17\_.

## PERFORMANCE STEPS:

- 1. Review references.
- 2. Validate requirement.
- 3. Obtain input/justification/recommendations from other units.
- 4. Research recommended solutions.
- 5. Fill in "Part 1a of 5 Originator's Request" of the NAVMC 11475 (UNS).
- 6. Route UNS through chain of command.

**RELATED EVENTS:** 1169-ADMN-2043

- 1. CJCSI 3470.01 Rapid Validation and Resourcing of Joint Urgent Operational Needs (JUONS) in the Year of Execution
- 2. MCO 3900.15\_ Marine Corps Expeditionary Force Development System (EFDS)
- 3. MCO 3900.17\_ The Marine Corps Urgent Needs Process (UNP) and the Urgent Universal Need Statement (Urgent UNS)

## SUPPORT REQUIREMENTS:

MATERIAL: NAVMC 11475 (Universal Need Statement)

OTHER SUPPORT REQUIREMENTS: Internet access, with a CAC card, will be required in order to complete this event. The NAVMC 11475 may be downloaded from https://www.mccdc.usmc.mil/OpsDiv/CAB/UNS.htm. Detailed instructions for filling in and processing the form are also available at this website.

1120-ADMN-2051: Manage preventive maintenance

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With equipment records, maintenance management reports, forms, and references.

**STANDARD:** So serviceable equipment will be available to support unit's mission.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Determine equipment Preventive Maintenance Checks and Services (PMCS) requirements.
- 3. Audit PMCS roster (NAVMC 10561).
- 4. Audit maintenance management reports.
- 5. Audit equipment records.
- 6. Determine maintenance priorities.
- 7. Validate support and test equipment assets and requirements.
- 8. Ensure PMCS schedule is followed.
- 9. Ensure PMCS actions are documented.

PREREQUISITE EVENTS: 1169-ADMN-2051

# RELATED EVENTS:

1120-ADMN-2052 1120-ADMN-2065 1120-ADMN-2071

1120-ADMN-2072 1120-ADMN-2073

- 1. Appropriate Technical Manuals
- 2. MCO 4733.1\_ Marine Corps Test, Measurement, and Diagnostics Equipment (TMDE) Calibration and Maintenance Program (CAMP)
- 3. MCO P4790.2\_ MIMMS Field Procedures Manual
- 4. MCWP 4-11.4 Maintenance Operations
- 5. TB 11-6115-741-24 Field and Sustainment Maintenance for Tactical Generator Desert Operations Special Test, Inspection, and Repair Requirements
- 6. TI 4733-OD/1\_ Calibration Requirements Marine Corps Test, Measurement and

Diagnostic Equipment Calibration and Maintenance Program

- 7. TM 4700-15/1\_ Ground Equipment Record Procedures
- 8. Unit SOP Unit's Standing Operating Procedures

## SUPPORT REQUIREMENTS:

#### MATERIAL:

NAVMC 10561 (Preventive Maintenance Checks and Services (PMCS) Roster) Equipment records Maintenance management reports

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Initial training for this event is received in the Utilities Chief course (CID: M0311E2).

1120-ADMN-2052: Manage corrective maintenance

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

 $\underline{ ext{CONDITION}}$ : With equipment records, maintenance management reports, and references.

**STANDARD:** So equipment is repaired in a timely manner, enhancing the unit's readiness.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Audit Maintenance Process Report (MPR) and other maintenance management reports.
- 3. Determine support and test equipment assets and requirements.
- 4. Determine maintenance priorities.
- 5. Ensure repairs are made.
- 6. Ensure repair actions are documented.

**PREREQUISITE EVENTS:** 1169-ADMN-2052

#### RELATED EVENTS:

1120-ADMN-2065 1120-ADMN-2071 1120-ADMN-2072 1120-ADMN-2073

- 1. Appropriate Technical Manuals
- 2. MCO P4790.2\_ MIMMS Field Procedures Manual
- 3. MCWP 4-11.4 Maintenance Operations
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. UNIT SOP Unit's Standing Operating Procedures

## SUPPORT REQUIREMENTS:

#### MATERIAL:

Equipment records

Maintenance management reports

#### **MISCELLANEOUS:**

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Initial training for this event is received in the Utilities Chief course (CID: M0311E2).

1120-ADMN-2061: Manage section's supply support

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

CONDITION: With maintenance, supply and fiscal reports, and references.

STANDARD: So section readiness is maintained.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Coordinate supply support requirements with unit's supply section.
- 3. Validate equipment SL-3 Using Unit Responsibility Items (UURI) requirements.
- 4. Provide input for budget requirements.
- 5. Manage execution of allocated funding.
- 6. Determine maintenance requirements.
- 7. Determine supply requirements.
- 8. Determine fuel requirements.
- 9. Manage shop/section Pre-Expended Bin (PEB) and repair order layette procedures.
- 10. Ensure parts, supplies, and fuel are obtained.
- 11. Manage shop/section validation/reconciliation procedures.
- 12. Ensure required documentation is maintained.

**RELATED EVENTS:** 1169-ADMN-2061

- 1. MCO 4050.38\_ Personal Effects and Baggage Manual
- 2. MCO 4105.2\_ Marine Corps Warranty Program
- 3. MCO 4400.120\_ Joint Regulation Governing the Use and Application of Uniform Source Maintenance and Recoverability Codes
- 4. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
- 5. MCO 4410.9\_ Assignment of Local Stock Numbers and Criteria for Determining Assignment of National Stock Numbers
- 6. MCO 4450.12\_ Storage and Handling of Hazardous Materials
- 7. MCO 4733.1\_ Marine Corps Test, Measurement, and Diagnostic Equipment

(TMDE) Calibration and Maintenance Program (CAMP)

- 8. MCO 4790.18\_ Corrosion Prevention and Control (CPAC) Program
- 9. MCO 5530.14\_ Marine Corps Physical Security Program Manual
- $10.\ \mathrm{MCO}\ 7300.21\_\ \mathrm{Marine}\ \mathrm{Corps}\ \mathrm{Financial}\ \mathrm{Management}\ \mathrm{Standard}\ \mathrm{Operating}\ \mathrm{Procedure}\ \mathrm{Manual}$
- 11. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 12. MCO P4400.82\_ Regulated/Controlled Item Management Manual
- 13. MCO P4790.2\_ MIMMS Field Procedures Manual
- 14. NAVMC 2664 Financial Guidebook for Commanders
- 15. SECNAVINST 4355.18 Reporting of Supply Discrepancies
- 16. TM 4700-15/1\_ Ground Equipment Record Procedures
- 17. TM 4795-34/2\_ Corrosion Prevention and Control, Rustproofing and Underbody Coating Procedures for Tactical Vehicles, Trailers, and Engineering Equipment
- 18. TM 4795-OR/1A Organizational Corrosion Prevention and Control Procedures
- for USMC Ground Combat Equipment
- 19. UNIT SOP Unit's Standing Operating Procedures

1120-ADMN-2062: Place new equipment in service

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

CONDITION: With equipment, Fielding Plan (FP), and references.

STANDARD: So equipment is supported by maintainers and operators.

### PERFORMANCE STEPS:

- 1. Review equipment's Fielding Plan (FP).
- 2. Establish a training plan for the new equipment.
- 3. Determine licensing requirements.
- 4. Determine impact on unit's budget.

**RELATED EVENTS:** 1169-ADMN-2062

## REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 3. UNIT SOP Unit's Standing Operating Procedures

1120-ADMN-2063: Validate unit T/O&E

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: T/O&E is Table of Organization and Equipment.

BILLETS: Platoon Commander, Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With current T/O&E, unit's Mission Essential Task List (METL), personnel roster, Consolidated Memorandum Receipt (CMR), and references.

STANDARD: So platoon/section capabilities will support unit's METL.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review unit's METLs.
- 3. Review T/O&E mission statement.
- 4. Compare T/O to personnel assigned to unit.
- 5. Compare T/E to CMR and equipment assigned to unit.
- 6. Identify discrepancies (additions/deletions).
- 7. Initiate T/O&E Change Request (TOECR), if required.

**RELATED EVENTS:** 1120-ADMN-2064

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO 5311.1\_ Total Force Structure Process (TFSP)
- 3. MCO 5320.12\_ Precedence Levels for Manning and Staffing
- 4. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 5. MCO P4790.2\_ MIMMS Field Procedures Manual
- 6. UNIT SOP Unit's Standing Operating Procedures
- 7. Unit T/O&E Unit's Table of Organization and Equipment

1120-ADMN-2064: Reconcile section's CMR

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 3 months

DESCRIPTION: CMR is Consolidated Memorandum Receipt.

BILLETS: Platoon Commander, Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment, chests, sets, kits, personnel, records, and references.

<u>STANDARD</u>: So assets are accounted for and available to support unit's mission.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review CMR.
- 3. Validate equipment National Stock Numbers (NSN).
- 4. Validate equipment serial numbers.
- 5. Collect documentation (SL-3 inventories, 1348-1s, ECR cards, Service

Requests (SR), etc.).

- 6. Verify equipment quantities.
- 7. Identify deficiencies/discrepancies.
- 8. Initiate Missing, Lost, Stolen, Recovered (MLSR) report (if required).

#### RELATED EVENTS:

1120-ADMN-2007 1120-ADMN-2063

#### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. MCO 5530.14 Marine Corps Physical Security Program Manual
- 5. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 6. MCO P4790.2\_ MIMMS Field Procedures Manual
- 7. UNIT SOP Unit's Standing Operating Procedures
- 8. Unit T/O&E Unit's Table of Organization and Equipment

1120-ADMN-2065: Manage equipment availability

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment records, reports, and references.

STANDARD: So unit's mission is supported with required equipment.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Identify shortages/excesses.
- 3. Review readiness.
- 4. Review priority designator assignments.
- 5. Review maintenance cycle time.
- 6. Develop a plan to increase equipment availability.

# PREREQUISITE EVENTS:

1120-ADMN-2071 1120-ADMN-2072 1120-ADMN-2073

## RELATED EVENTS:

1120-ADMN-2061 1120-ADMN-2062

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 5. MCO 3000.11\_ Ground Equipment Condition and Supply Materiel Readiness

Reporting (MRR) Policy

- 6. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
- 7. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 8. MCO P4790.2\_ MIMMS Field Procedures Manual
- 9. UNIT SOP Unit's Standing Operating Procedures

1120-ADMN-2071: Validate maintenance management reports

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Platoon Commander, Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With access to Global Combat Support System-Marine Corps (GCSS-MC), maintenance management reports, supporting documentation, and references.

**STANDARD:** So accuracy of maintenance management reports is validated and unit's readiness and equipment serviceability are enhanced.

#### PERFORMANCE STEPS:

- 1. Obtain current Maintenance Process Report (MPR).
- 2. Review references.
- 3. Review supporting documentation (equipment records).
- 4. Review MPR maintenance cycle times.
- 5. Identify MPR "exceptions."
- 6. Determine actions (if any) to correct "exceptions."
- 7. Make corrections (if any) to Service Requests (SR).
- 8. Debrief SRs.

## PREREQUISITE EVENTS:

1120-ADMN-2006 1120-ADMN-2007 1120-ADMN-2064

## RELATED EVENTS:

1120-ADMN-2061 1120-ADMN-2062 1120-ADMN-2065 1120-ADMN-2072 1120-ADMN-2073 1169-ADMN-2071

# **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- $4.\ \ \text{MCO }3000.11\_$  Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
- 5. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
- 6. MCO P4790.2\_ MIMMS Field Procedures Manual
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures
- 8. UNIT SOP Unit's Standing Operating Procedures

## SUPPORT REQUIREMENTS:

MATERIAL: Maintenance Process Report (MPR)

1120-ADMN-2072: Manage maintenance related programs

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

CONDITION: With equipment, equipment records, and references.

STANDARD: So unit's readiness and equipment serviceability are enhanced.

## PERFORMANCE STEPS:

- 1. Review references.
- 2. Determine unit's maintenance program requirements.
- 3. Inspect equipment.
- 4. Manage Modification Control program.
- 5. Manage Calibration Control program.
- 6. Manage New Equipment Warranty program.
- 7. Manage Quality Deficiency (QDR) program.
- 8. Manage Recoverable Items (WIR) program.
- 9. Manage Quality Control (QC) program.
- 10. Manage Corrosion Prevention and Control (CPAC) program.
- 11. Ensure program and equipment records are maintained.

**PREREQUISITE EVENTS:** 1169-ADMN-2072

### RELATED EVENTS:

1120-ADMN-2041 1120-ADMN-2051 1120-ADMN-2052 1120-ADMN-2065 1120-ADMN-2071 1120-ADMN-2073

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO 4400.194\_ Marine Corps Class VII Stock Rotation Policy
- 3. MCO 4733.1\_ Marine Corps Test, Measurement, and Diagnostics Equipment (TMDE) Calibration and Maintenance Program (CAMP)
- 4. MCO 4790.18\_ Corrosion Prevention and Control (CPAC) Program
- 5. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 6. MCO P4400.82\_ Regulated/Controlled Item Management Manual
- 7. MCO P4790.2\_ MIMMS Field Procedures Manual
- 8. TI 4733-OD/1\_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
- 9. TM 4700-15/1 Ground Equipment Record Procedures
- $10.\ \mathrm{TM}\ 750\text{-}245\text{-}4\ \mathrm{Direct}\ \mathrm{Support}$ , General Support Quality Control Inspector's Inspection Criteria
- 11. Unit SOP Unit's Standing Operating Procedures

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Initial training for this event is received in the Utilities Chief course (CID: M0311E2). Some programs listed above may not be required at all units.

1120-ADMN-2073: Manage equipment records

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

CONDITION: With equipment, equipment records, forms, and references.

STANDARD: So section's readiness can be determined.

#### PERFORMANCE STEPS:

1. Review references.

- 2. Identify records requirements.
- 3. Ensure records are established for each piece of equipment.
- 4. Manage records.

**RELATED EVENTS:** 1169-ADMN-2073

#### **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 4. MCO 3000.11\_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
- 5. MCO 3000.13\_ Marine Corps Readiness Reporting Standard Operating Procedures (SOP)  $\,$
- 6. MCO 5210.11\_ Marine Corps Records Management Program
- 7. MCO 5600.31\_ Marine Corps Printing and Publishing Regulations
- 8. MCO P4400.160\_ Field Supply and Maintenance Analysis Office Program (FSMAO)
- 9. MCO P4790.2\_ MIMMS Field Procedures Manual
- 10. TM 4700-15/1\_ Ground Equipment Record Procedures
- 11. Unit SOP Unit's Standing Operating Procedures

1120-ADMN-2074: Validate Maintenance Shop procedures

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

CONDITION: In a shop, with maintenance management checklists and references.

STANDARD: So all functional areas are certified mission capable.

## PERFORMANCE STEPS:

- 1. Review checklists.
- 2. Gather/review the required checklist references.
- 3. Inspect shop functional areas.
- 4. Administer corrective actions, as necessary.

## RELATED EVENTS:

| 1120-ADMN-2001 | 1120-ADMN-2002 | 1120-ADMN-2006 |
|----------------|----------------|----------------|
| 1120-ADMN-2007 | 1120-ADMN-2021 | 1120-ADMN-2022 |
| 1120-ADMN-2023 | 1120-ADMN-2051 | 1120-ADMN-2052 |
| 1120-ADMN-2061 | 1120-ADMN-2062 | 1120-ADMN-2063 |
| 1120-ADMN-2064 | 1120-ADMN-2065 | 1120-ADMN-2071 |
| 1120-ADMN-2072 | 1120-ADMN-2073 | 1120-ADMN-2081 |
| 1120-ADMN-2082 | 1120-ADMN-2083 |                |

#### **REFERENCES:**

- 1. MCO P4400.160\_ Field Supply and Maintenance Analysis Office Program (FSMAO)
- 2. MCO P4790.2\_ MIMMS Field Procedures Manual
- 3. Unit SOP Unit's Standing Operating Procedures

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: There are numerous Marine Corps websites that have downloadable checklists. However; it is recommend that the checklists used for this event be obtained from local inspectors.

1120-ADMN-2075: Establish field maintenance

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With an Operation Order, environmental impact report, camp layout, equipment, resources, and references.

**STANDARD:** So unit's mission is supported with required maintenance capabilities.

#### PERFORMANCE STEPS:

- 1. Review Operation Order, environmental impact report, camp layout, and the references.
- 2. Plan field maintenance operation.
- 3. Obtain contingency RUCs/JONs, etc.
- 4. Validate utilities portions of contingency Class IX repair parts block.

- 5. Determine safety/environmental considerations.
- 6. Establish guidelines for field maintenance facility operation.
- 7. Manage field maintenance facility set up.
- 8. Ensure equipment records are maintained.
- 9. Recover field maintenance facility.

#### RELATED EVENTS:

| 1120-ADMN-2021 | 1120-ADMN-2022 | 1120-ADMN-2051 |
|----------------|----------------|----------------|
| 1120-ADMN-2052 | 1120-ADMN-2065 | 1120-ADMN-2071 |
| 1120-ADMN-2073 | 1120-ADMN-2074 |                |

#### REFERENCES:

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. MCO P4790.2\_ MIMMS Field Procedures Manual
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. Unit SOP Unit's Standing Operating Procedures

1120-ADMN-2081: Monitor equipment embarkation requirements

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With equipment, personnel, unit embarkation reports, equipment marking/labeling support, and references.

STANDARD: So unit's readiness/movement will be supported per MCRP 4-11.3G.

## PERFORMANCE STEPS:

- 1. Review references.
- 2. Validate turnover folders/desktop procedures.
- 3. Reconcile Unit Deployment List (UDL) with Table of Organization and Equipment (T/O&E) and Consolidated Memorandum Receipt (CMR).
- 4. Review MAGTF Deployment Support System II (MDSS II)/Marine Air Ground Task Force II (MAGTF II) Logistics Automated Information System (LOGAIS) reports.
- 5. Review Joint Operational Planning and Execution System (JOPES) reports.
- 6. Inspect assigned equipment.
- 7. Identify Remain Behind Equipment (RBE).
- 8. Identify Leave Behind Equipment (LBE).
- 9. Ensure equipment is marked/labeled for transportation/embarkation.
- 10. Ensure equipment is disassembled, stowed, packed, and/or prepared for transportation/embarkation.
- 11. Provide input for Tab B (Embarkation Plan) to Appendix 14 to Annex C of Operation Orders.
- 12. Coordinate with unit embarkation personnel to ensure discrepancies with MDSS II/MAGTF II LOGAIS, and/or JOPES reports are corrected.

## RELATED EVENTS:

NAVMC 3500.12B 22 Jan 2014

1120-ADMN-2007 1120-ADMN-2063 1120-ADMN-2064

1120-ADMN-2065 1120-ADMN-2073

## **REFERENCES:**

- 1. CJCSM 3122.05 Operating Procedures for Joint Operation Planning and Execution System (JOPES) Information Systems (IS) Governance
- 2. DoDD 4500.09E Transportation and Traffic Management
- 3. DTR 4500.9-R Defense Transportation Regulation
- 4. JP 1-02 Department of Defense Dictionary of Military and Associated Terms
- 5. JP 3-02 Amphibious Operations
- 6. JP 3-02.1 Amphibious Embarkation and Debarkation
- 7. JP 4-0 Joint Logistics
- 8. JP 4-01.2 Sealift Support to Joint Operations
- 9. JP 4-01.5 Joint Terminal Operations
- 10. JP 4-01.6 Joint Logistics Over-the-Shore (JLOTS)
- 11. JP 4-07 Joint Tactics, Techniques, and Procedures for Common-User Logistics during Joint Operations
- 12. JP 5-0 Joint Operation Planning
- 13. MCBul 4081 Marine Air Ground Task Force (MAGTF) Logistics Support Systems (MLS2)
- 14. MCO 3000.18\_ Marine Corps Force Deployment Planning and Execution (FDP&E) Manual
- 15. MCO 4410.28\_ Item Unique Identification (IUID) of Ground Equipment
- 16. MCO 4631.10\_ Operational Support Airlift Management
- 17. MCO 4680.5\_ Containerization Policy
- 18. MCO P4030.19\_ Preparing Hazardous Materials for Military Air Shipments
- 19. MCO P4600.7\_ Marine Corps Transportation Manual
- 20. MCRP 3-31B Amphibious Ships and Landing Craft Data Book
- 21. MCRP 4-11.3G Unit Embarkation Handbook
- 22. MCRP 4-11C Combat Cargo Operations Handbook
- 23. MCRP 5-12D Organization of Marine Corps Forces
- 24. MCWP 3-31.5 Ship-to-Shore Movement
- 25. MCWP 3-32 Maritime Prepositioning Force Operations
- 26. MCWP 4-1 Logistics Operations
- 27. MCWP 4-11 Tactical-Level Logistics
- 28. MCWP 4-11.3 Transportation Operations
- 29. MCWP 4-11.8 Services in an Expeditionary Environment
- 30. MCWP 4-12 Operational-Level Logistics
- 31. MCWP 5-1 Marine Corps Planning Process (MCPP)
- $32.\ \text{TM}\ 11240\text{-OD}\ \text{Principal Technical Characteristics of U.S.}$  Marine Corps Motor Transportation Equipment
- $33.\ \text{TM}\ 11275-15/3\_$  Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 34. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 35. TM 4750-OD/1 Painting, Coating, Underbody and Registration Marking for Marine Corps Combat and Tactical Equipment
- 36. Unit SOP Unit's Standing Operating Procedures
- 37. Unit T/O&E Unit's Table of Organization and Equipment

1120-ADMN-2082: Manage equipment operator licensing program

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With personnel, supporting documentation, licensing records, and references.

<u>STANDARD</u>: So licensed operators are available to operate the unit's equipment per TM 11275-15/4.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Determine operator licensing requirements.
- 3. Review Operator History File.
- 4. Review equipment training and testing programs.
- 5. Review Action Date File to ensure timely renewal actions.
- 6. Review and approve or reject license applications (and renewals).
- 7. Review and approve completed OF 346 (U.S. Government Motor Vehicle Operator's Identification Card).
- 8. Ensure all issued licenses are recorded in the License Log Book.
- 9. Ensure any licensing action (issues/renewals/revocations) is recorded in the individual's Service Record Book (SRB).

PREREQUISITE EVENTS: 1169-ADMN-2082

#### REFERENCES:

- 1.  $\mbox{MCO }11240.66\_$  Standard Licensing Policy for Operators of Military Motor Vehicles
- 2. MCO 6260.1\_ Marine Corps Hearing Conservation Program
- 3. MCO P4790.2\_ MIMMS Field Procedures Manual
- 4. TM 11240-15/3\_ Motor Vehicle Licensing Official's Manual
- 5. TM 11240-OD Principal Technical Characteristics of U.S. Marine Corps Motor Transportation Equipment
- 6. TM 11275-15/3 Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 7. TM 11275-15/4 Tactical Engineer Equipment Licensing Manual
- 8. Unit SOP Unit's Standing Operating Procedures

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Initial training for this event is received in the Utilities Chief course (CID: M0311E2).

1120-ADMN-2083: Manage Motor Pool operations

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

## INITIAL TRAINING SETTING: FORMAL

 $\overline{\text{CONDITION}}$ : In a shop environment, with a Motor Transport Operations Chief  $\overline{\text{(MOS 3537)}}$  and references.

**STANDARD:** So all functional areas are mission capable, supporting unit's mission.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review inspection checklists.
- 3. Inspect shop functions.
- 4. Identify discrepancies.
- 5. Administer corrective actions.

#### RELATED EVENTS:

| 1120-ADMN-2021 | 1120-ADMN-2022 | 1120-ADMN-2051 |
|----------------|----------------|----------------|
| 1120-ADMN-2052 | 1120-ADMN-2061 | 1120-ADMN-2063 |
| 1120-ADMN-2064 | 1120-ADMN-2065 | 1120-ADMN-2071 |
| 1120-ADMN-2072 | 1120-ADMN-2073 | 1120-ADMN-2074 |
| 1120-ADMN-2075 | 1120-ADMN-2082 |                |

## REFERENCES:

- 1. DoDI 5410.01 Release of Information Concerning Accidents Involving Military Personnel or Equipment or Concerning Senior Personnel
- 2. MCO 11240.66\_ Standard Licensing Policy for Operators of Military Motor Vehicles
- 3. MCO P4790.2\_ MIMMS Field Procedures Manual
- 4. MCRP 4-11.4A Recovery and Battle Damage Assessment and Repair
- 5. MCWP 4-11.3 Transportation Operations
- 6. NAVMC 3500.39\_ Motor Transport Training and Readiness Manual
- 7. TM 11240-15/3\_ Motor Vehicle Licensing Official's Manual
- 8. TM 11240-OD Principal Technical Characteristics of U.S. Marine Corps Motor Transportation Equipment
- 9. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

UNITS/PERSONNEL: MOS 3537 (Motor Transport Operations Chief)

1120-ADMN-2091: Brief utilities support plan

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

 $\underline{ ext{CONDITION}}$ : With an Operation Order, site survey, cantonment plan, and references.

STANDARD: So command staff is aware of utilities support capabilities.

#### PERFORMANCE STEPS:

- 1. Determine briefing requirements.
- 2. Gather briefing materials.
- 3. Present information.
- 4. Answer questions (as required).

PREREQUISITE EVENTS: 1169-ADMN-2091

#### REFERENCES:

- 1. ATTP 5-0.1 Commander and Staff Officer Guide
- 2. MCWP 5-1 Marine Corps Planning Process (MCPP)

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Initial training for this event is received in the Utilities Chief course (CID: M0311E2).

1120-ADMN-2092: Brief commander on utilities situation

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 1 month

**BILLETS:** Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

CONDITION: With current data and references.

**STANDARD:** So command staff will understand section's capabilities/priorities.

#### PERFORMANCE STEPS:

- 1. Determine briefing requirements.
- 2. Gather briefing materials.
- 3. Present information.
- 4. Answer questions (as required).

#### PREREQUISITE EVENTS:

1120-ADMN-2021 1120-ADMN-2022 1120-ADMN-2023 1120-ADMN-2063 1120-ADMN-2064 1120-ADMN-2065 1120-ADMN-2071

**RELATED EVENTS:** 1120-ADMN-2091

- 1. ATTP 5-0.1 Commander and Staff Officer Guide
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES)

#### Equipment

- 5. MCO 3000.11 $\_$  Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
- 6. MCO 3000.18\_ Marine Corps Force Deployment Planning and Execution (FDP&E) Manual
- 7. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
- 8. MCO 5311.1\_ Total Force Structure Process (TFSP)
- 9. MCO 5320.12\_ Precedence Levels for Manning and Staffing
- 10. MCO 5600.20 Marine Corps Doctrinal Publications System
- 11. MCO 7300.21\_ Marine Corps Financial Management Standard Operating Procedure Manual
- 12. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 13. MCO P4790.2 MIMMS Field Procedures Manual
- 14. MCO P5090.2\_ Environmental Compliance and Protection Manual
- 15. MCRP 3-17.7K Theater of Operations Electrical Systems
- 16. MCRP 4-11.1D Field Hygiene and Sanitation
- 17. MCRP 4-11B Environmental Considerations
- 18. MCWP 4-11.4 Maintenance Operations
- 19. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 20. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 21. NAVMC 3500.12 Marine Corps Engineer and Utilities Training and Readiness Manual
- 22. NAVMC DIR 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Program Manual
- 23. TM 4700-15/1\_ Ground Equipment Record Procedures
- 24. UNIT SOP Unit's Standing Operating Procedures
- 25. Unit T/O&E Unit's Table of Organization and Equipment

1120-XENG-2501: Plan a utilities site survey

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Platoon Commander, Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

CONDITION: With mission, commander's intent, map, and references.

**STANDARD:** So detailed Requests for Information (RFI) are developed, ensuring information is gathered to plan utilities support in compliance with the mission and commander's intent.

#### PERFORMANCE STEPS:

- 1. Review mission, enemy, terrain and weather, troops and fire support available time available, space, and logistics (METT-TSL).
- 2. Review commander's intent.
- 3. Review map.
- 4. Develop RFIs on available host nation/local vendor support.
- 5. Develop RFIs on water sources.
- 6. Develop RFIs for water storage sites.
- 7. Develop RFIs for hygiene sites.

- 8. Develop RFIs on waste water disposal.
- 9. Develop RFIs for refrigeration sites.
- 10. Develop RFIs for environmental control requirements.
- 11. Develop RFIs for generator sites.
- 12. Develop RFIs on electrical power distribution requirements.
- 13. Prioritize RFIs.

## **RELATED EVENTS:** 1120-XENG-2502

- 1. ATTP 5-0.1 Commander and Staff Officer Guide
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. FM 3-55 Information Collection
- 5. FMFM 7-29 Mountain Operations
- 6. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 7. MCO 3000.18\_ Marine Corps Force Deployment Planning and Execution (FDP&E) Manual
- 8. MCO 3500.27\_ Operational Risk Management (ORM)
- 9. MCO P5090.2\_ Environmental Compliance and Protection Manual
- 10. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 11. MCRP 3-17.7F Project Management
- 12. MCRP 3-17.7K Theater of Operations Electrical Systems
- 13. MCRP 3-17B Engineer Forms and Reports
- 14. MCRP 3-35.1D Cold Region Operations
- 15. MCRP 4-11.1D Field Hygiene and Sanitation
- 16. MCRP 4-11.8A Marine Corps Field Feeding Program
- 17. MCRP 4-11B Environmental Considerations
- 18. MCRP 5-12A Operational Terms and Graphics
- 19. MCWP 3-17 Engineering Operations
- 20. MCWP 3-17.4 Engineer Reconnaissance
- 21. MCWP 3-17.7 General Engineering
- 22. MCWP 3-35.5 Jungle Operations
- 23. MCWP 3-35.6 Desert Operations
- 24. MCWP 4-11.4 Maintenance Operations
- 25. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 26. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 27. NAVMC DIR 5100.8 $\_$  Marine Corps Occupational Safety and Health (OSH) Program Manual
- 28. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- $29.\ \mathrm{NAVMED}\ \mathrm{P-5010-5}\ \mathrm{Manual}$  of Naval Preventive Medicine, Chapter 5, Water Supply Ashore
- 30. TB MED 593 Guidelines for Field Waste Management
- 31. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 32. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 33. TM 5-811-1 Electric Power Supply and Distribution
- 34. TM 5-813-1 Water Supply, Sources and General Considerations
- 35. TM 5-813-3 Water Supply, Water Treatment
- 36. TM 5-813-4 Water Supply, Water Storage
- 37. TM 5-813-5 Water Supply, Water Distribution
- 38. TM 5-813-7 Water Supply for Special Projects

- 39. TM 5-813-8 Water Desalination
- 40. TM 5-813-9 Water Supply, Pumping Stations
- 41. TM 5-820-4 Drainage for Areas Other Than Airfields
- 42. Unit T/O&E Unit's Table of Organization and Equipment

## SUPPORT REQUIREMENTS:

**MATERIAL:** Map

1120-XENG-2502: Conduct utilities site survey

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With warning order, developed Requests for Information (RFI), personnel, transportation, area map, equipment, materials, forms, and references.

**STANDARD:** So data for planning unit support will be available to generate utilities support plan(s) per the warning order.

#### PERFORMANCE STEPS:

- 1. Review warning order, Requests for Information (RFI) and references.
- 2. Review map.
- 3. Brief personnel.
- 4. Conduct survey.
- 5. Evaluate site(s) for safety concerns.
- 6. Evaluate site(s) for environmental concerns.
- 7. Ensure site conditions are evaluated and recorded on reconnaissance reports and Smartcards.
- 8. Evaluate alternate sites.
- 9. Evaluate site(s) for camouflage, concealment, and decoys.
- 10. Evaluate site(s) for Rear Area Security concerns.
- 11. Develop Site Survey report.
- 12. Brief Site Survey to those concerned.
- 13. Provide input for camp layout.
- 14. Provide input for engineer portions of operation orders.

## PREREQUISITE EVENTS:

1120-XENG-2501 1169-XENG-2502

## RELATED EVENTS:

| 1120-XENG-2521 | 1120-XENG-2553 | 1120-XENG-2555 |
|----------------|----------------|----------------|
| 1120-XENG-2558 | 1120-XENG-2622 | 1141-XENG-2501 |
| 1171-XENG-2501 |                |                |

## REFERENCES:

1. ATTP 5-0.1 Commander and Staff Officer Guide

- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. FM 3-55 Information Collection
- 5. FMFM 7-29 Mountain Operations
- 6. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 7. MCO 3000.18\_ Marine Corps Force Deployment Planning and Execution (FDP&E) Manual
- 8. MCO 3500.27\_ Operational Risk Management (ORM)
- 9. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 10. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 11. MCRP 3-17.7F Project Management
- 12. MCRP 3-17.7K Theater of Operations Electrical Systems
- 13. MCRP 3-17.7N Base Camps
- 14. MCRP 3-17B Engineer Forms and Reports
- 15. MCRP 3-35.1D Cold Region Operations
- 16. MCRP 4-11.1D Field Hygiene and Sanitation
- 17. MCRP 4-11.8A Marine Corps Field Feeding Program
- 18. MCRP 4-11B Environmental Considerations
- 19. MCRP 5-12A Operational Terms and Graphics
- 20. MCWP 3-17 Engineering Operations
- 21. MCWP 3-17.4 Engineer Reconnaissance
- 22. MCWP 3-17.7 General Engineering
- 23. MCWP 3-35.5 Jungle Operations
- 24. MCWP 3-35.6 Desert Operations
- 25. MCWP 3-41.1 Rear Area Operations
- 26. MCWP 4-1 Logistics Operations
- 27. MCWP 4-11 Tactical-Level Logistics
- 28. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 29. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 30. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 31. NAVMED P-5010-5 Manual of Naval Preventive Medicine, Chapter 5, Water Supply Ashore
- 32. TB MED 593 Guidelines for Field Waste Management
- 33. TM 10-6630-222-12&P Operator and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Water Quality Analysis Set: Purification (WQAS-P)
- $34.\ {\rm TM}\ 11275-15/3\_$  Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 35. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 36. TM 5-811-1 Electric Power Supply and Distribution
- 37. TM 5-811-3 Electrical Design, Lightning and Static Electricity Protection
- 38. TM 5-813-1 Water Supply, Sources and General Considerations
- 39. TM 5-813-3 Water Supply, Water Treatment
- 40. TM 5-813-4 Water Supply, Water Storage
- 41. TM 5-813-5 Water Supply, Water Distribution
- 42. TM 5-813-7 Water Supply for Special Projects
- 43. TM 5-813-8 Water Desalination
- 44. TM 5-813-9 Water Supply, Pumping Stations
- 45. TM 5-820-4 Drainage for Areas Other Than Airfields

## **EQUIPMENT:**

Personal Protective Equipment (PPE)
Water Quality Analysis Set, Purification (WQAS-P) [B2630]
Compass [K4222]
Camera
Calculator
Multimeter [H7030]
Tape measure

#### MATERIAL:

Area topographical map(s)
DA Form 1712-R (Water Reconnaissance Report)
Electricity Smartcard (Figure C-4 of MCWP 3-17.4)
Water Smartcard (Figure C-3 of MCWP 3-17.4)
Pens/pencils

## UNITS/PERSONNEL:

Security may be required

MOS 1171 (Water Support Technician) to test water with WQAS-P

MOS 5711 (Nuclear Biological and Chemical Defense (NBCD) Specialist) to
test water for NBC contamination

OTHER SUPPORT REQUIREMENTS: Transportation (by vehicle or aircraft) will be required for access to prospective site(s).

### MISCELLANEOUS:

#### ADMINISTRATIVE INSTRUCTIONS:

MOS 5711 (Nuclear Biological and Chemical Defense (NBCD) Specialist) will test water for NBC contamination
MOS 1171 (Water Support Technicians) are licensed operators of the Water

Quality Analysis Set, Purification (WQAS-P) [B2630]

Initial training for this event is received in the Utilities Chief course (CID: M0311E2)

1120-XENG-2521: Plan a field electrical power generation/distribution system

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Platoon Commander, Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With a warning order requiring a base camp(s), area map(s), area reconnaissance report(s), any environmental impact report(s), camp layout(s), and references.

STANDARD: So requirements of warning order are supported; with electrical

power generation and distribution drawn on camp layout(s) and a Course of Action (COA) established; and input provided for Annex D of the Operation Order.

## PERFORMANCE STEPS:

- Review warning order, map(s), reconnaissance report(s), camp layout(s), and references.
- 2. Identify equipment/personnel requiring electrical support.
- 3. Determine electrical power generation/distribution equipment requirements, selecting equipment sites.
- 4. Determine environmental impacts.
- 5. Plot generation sites on camp layout(s), making provision for traffic.
- 6. Identify potential impact of weather/climate on electrical power generation/distribution operations.
- 7. Determine risks, conducting operational risk assessments.
- 8. Identify "Off Limit" areas (i.e., generator sites, hazardous material sites, etc.).
- 9. Determine number and type of warning signs required.
- 10. Schedule Preventive Maintenance Checks and Services (PMCS).
- 11. Determine POL requirements.
- 12. Determine camouflage, concealment, and decoy requirements.
- 13. Determine security requirements.
- 14. Estimate man-hour requirements, determining number of electricians required to support the mission.
- 15. Establish operator schedules.
- 16. Estimate logistical support (truck, forklift, etc.) required.
- 17. Establish Bill of Materials (BOM) including security, camouflage, environmental, and safety items.
- 18. Generate work request(s) for any required construction.
- 19. Establish a Course of Action (COA).
- 20. Record requirements for input into Annex D of the Operation Order.
- 21. Brief electrical support plan (if required).

### PREREQUISITE EVENTS:

1120-XENG-2502 1169-XENG-2521

#### RELATED EVENTS:

1120-XENG-2522 1120-XENG-2621 1120-XENG-2721

1120-XENG-2821

- 1. Appropriate Technical Manuals
- 2. 29 CFR 1910.269 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 269 Electrical Power Generation, Transmission, and Distribution
- 3. 29 CFR 1910.301-399 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Subpart S, (Standard Numbers 301-399) Electrical
- 4. ATTP 5-0.1 Commander and Staff Officer Guide
- 5. FMFM 7-29 Mountain Operations
- 6. MCO 3000.18\_ Marine Corps Force Deployment Planning and Execution (FDP&E) Manual
- 7. MCO 3500.27\_ Operational Risk Management (ORM)
- 8. MCRP 3-17.6A Camouflage, Concealment, and Decoys

- 9. MCRP 3-17.7F Project Management
- 10. MCRP 3-17.7K Theater of Operations Electrical Systems
- 11. MCRP 3-17.7N Base Camps
- 12. MCRP 3-17B Engineer Forms and Reports
- 13. MCRP 3-35.1D Cold Region Operations
- 14. MCRP 4-11.8A Marine Corps Field Feeding Program
- 15. MCRP 4-11B Environmental Considerations
- 16. MCRP 5-12A Operational Terms and Graphics
- 17. MCWP 3-17 Engineering Operations
- 18. MCWP 3-17.4 Engineer Reconnaissance
- 19. MCWP 3-17.7 General Engineering
- 20. MCWP 3-35.5 Jungle Operations
- 21. MCWP 3-35.6 Desert Operations
- 22. MCWP 3-41.1 Rear Area Operations
- 23. MCWP 4-1 Logistics Operations
- 24. MCWP 4-11 Tactical-Level Logistics
- 25. MCWP 4-11.5 SeaBee Operations in the MAGTF
- 26. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 27. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 28. TM 11275-15/3 Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 29. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 30. TM 5-811-1 Electric Power Supply and Distribution
- 31. TM 5-811-3 Electrical Design, Lightning and Static Electricity Protection
- $32.\ \text{TM}\ 9406-15\_$  Grounding Procedures for Electromagnetic Interference Control and Safety

## MATERIAL:

Area topographical map(s)
Electric Smartcards (Figure C-4 of MCWP 3-17.4)
Area reconnaissance report(s)
Environmental impact report(s) (if any)
Camp layout(s)

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Initial training for this event is received in the Utilities Chief course (CID: M0311E2).

1120-XENG-2522: Design a field expedient electrical distribution panel

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** THIS EVENT IS A "LAST RESORT." Completion of this event will be the first step in ensuring uninterrupted electrical power in a field environment, as a stop gap, if required MEPDIS/MEPDIS-R is not available. The "electrical distribution panel" is more commonly known as a "bus-bar."

BILLETS: Platoon Commander, Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With a known requirement for uninterrupted electrical power, a list of available materials, and references.

<u>STANDARD</u>: So electrical power can be distributed/disconnected/paralleled from the electrical power source, through overcurrent protection, to the distribution system as safely as possible.

#### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARDS.
- 2. Determine maximum amperage of electrical distribution grid.
- 3. Determine size of conductors.
- 4. Determine size of over current protection.
- 5. Determine bonding and grounding requirements.
- 6. Determine impact of weather on "distribution panel."
- 7. Identify safety zones, signage requirements.
- 8. Determine remaining construction and electrical materials required.
- 9. Draw "distribution panel," detailing safety considerations.
- 10. Establish a Bill of Materials (BOM).
- 11. Document operational risks.
- 12. Obtain approval of risks from appropriate command level.

### PREREQUISITE EVENTS:

1120-ADMN-2001 1120-ADMN-2002 1120-ADMN-2031

1169-XENG-2522

**RELATED EVENTS:** 1120-XENG-2521

- 1. Appropriate Technical Manuals
- 2. 29 CFR 1910.147 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 147 Control of Hazardous Energy (Lockout/Tagout)
- 3. 29 CFR 1910.269 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 269 Electrical Power Generation, Transmission, and Distribution
- 4. 29 CFR 1910.301-399 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Subpart S, (Standard Numbers 301-399) Electrical
- 5. ATTP 5-0.1 Commander and Staff Officer Guide
- 6. MCO 3500.27\_ Operational Risk Management (ORM)
- 7. MCRP 3-17.7K Theater of Operations Electrical Systems
- 8. MCRP 3-17.7M Construction Estimating
- 9. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 10. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 11. TC 11-6 Grounding Techniques
- 12. TM 5-690 Grounding and Bonding in Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) Facilities
- 13. TM 5-811-1 Electric Power Supply and Distribution
- 14. TM 5-811-3 Electrical Design, Lightning and Static Electricity Protection

- 15. TM 5-811-7 Electrical Design, Cathodic Protection
- $16.\ {
  m TM}\ 9406-15\_$  Grounding Procedures for Electromagnetic Interference Control and Safety

MATERIAL: Risk Management Worksheet

#### MISCELLANEOUS:

### ADMINISTRATIVE INSTRUCTIONS:

Initial training for this event is received in the Utilities Chief course (CID: M0311E2).

Risk Management Worksheet should be approved by appropriate commander after risks are fully briefed.

<u>1120-XENG-2541</u>: Plan field refrigeration/environmental control equipment support

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With a warning order requiring a base camp(s), area map(s), area reconnaissance report(s), any environmental impact report(s), camp layout(s), and references.

**STANDARD:** So requirements of warning order are supported; with refrigeration/environmental control equipment drawn on camp layout(s) and a Course of Action (COA) established; and input provided for the Operation Order.

## PERFORMANCE STEPS:

- 1. Review warning order, map(s), reconnaissance report(s), camp layout(s), and references.
- 2. Identify equipment/personnel requiring heating and air conditioning support.
- 3. Determine environmental control equipment requirements, selecting equipment sites.
- 4. Identify areas/activities requiring refrigeration support.
- 5. Determine field refrigeration system requirements, selecting equipment sites.
- 6. Determine environmental impacts.
- 7. Plot Environmental Control Unit (ECU) sites on camp layout(s).
- 8. Plot field refrigeration system sites on camp layout(s).
- 9. Identify potential impact of weather/climate on refrigeration/ECU operations.
- 10. Determine risks, conducting operational risk assessments.
- 11. Determine number and type of warning signs required.

- 12. Schedule Preventive Maintenance Checks and Services (PMCS).
- 13. Determine camouflage, concealment, and decoy requirements.
- 14. Estimate man-hour requirements, determining number of Refrigeration and
- Air Conditioning Technicians required to support the mission.
- 15. Estimate logistical support (truck, forklift, etc.) required.
- 16. Establish Bill of Materials (BOM) including security, camouflage, environmental, and safety items.
- 17. Generate work request(s) for any required construction.
- 18. Establish a Course of Action (COA).
- 19. Record requirements for input into the Operation Order.
- 20. Brief plan (if required).

#### PREREQUISITE EVENTS:

1120-XENG-2502 1169-XENG-2541

# RELATED EVENTS:

1120-XENG-2641 1120-XENG-2741 1120-XENG-2841

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. ATTP 5-0.1 Commander and Staff Officer Guide
- 3. MCO 3000.18\_ Marine Corps Force Deployment Planning and Execution (FDP&E) Manual
- 4. MCO 3500.27\_ Operational Risk Management (ORM)
- 5. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 6. MCRP 3-17.7F Project Management
- 7. MCRP 3-17.7N Base Camps
- 8. MCRP 3-17B Engineer Forms and Reports
- 9. MCRP 3-35.1D Cold Region Operations
- 10. MCRP 4-11.8A Marine Corps Field Feeding Program
- 11. MCRP 4-11B Environmental Considerations
- 12. MCRP 5-12A Operational Terms and Graphics
- 13. MCWP 3-17 Engineering Operations
- 14. MCWP 3-17.4 Engineer Reconnaissance
- 15. MCWP 3-17.7 General Engineering
- 16. MCWP 3-35.5 Jungle Operations
- 17. MCWP 3-35.6 Desert Operations
- 18. MCWP 3-41.1 Rear Area Operations
- 19. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 20. PL 101-549 Public Law No: 101-549 Clean Air Act Amendments of 1990
- 21. SL-3-11574A Components List for Large Field Refrigeration System
- 22. SL-3-11609A Components List for Small Field Refrigeration System
- 23. SL-3-4120 Components List for Family of Environmental Control Units
- $24.\ {
  m TM}\ 11275-15/3\_$  Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 25. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- $26.\ \mathrm{TM}\ 9406-15\_$  Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

# MATERIAL:

Area topographical map(s)

Area reconnaissance report(s)
Environmental impact report(s) (if any)
Camp layout(s)

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Initial training for this event is received in the Utilities Chief course (CID: M0311E2).

1120-XENG-2553: Plan field water support

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With a warning order requiring a base camp(s), area map(s), area reconnaissance report(s), water reconnaissance report(s), any environmental impact report(s), camp layout(s), and references.

**STANDARD:** So requirements of warning order are supported; with water sites and distribution points drawn on camp layout(s) and a Course of Action (COA) established; and input provided for Appendix 2 to Annex D of the Operation Order.

## PERFORMANCE STEPS:

- 1. Review warning order, map(s), reconnaissance report(s), camp layout(s), and references.
- 2. Identify equipment/personnel requiring water support.
- 3. Determine water purification/storage/distribution equipment requirements, selecting equipment sites.
- 4. Determine environmental impacts.
- 5. Plot equipment sites on camp layout(s).
- 6. Select water point location(s) making provision for traffic and drainage.
- 7. Plot water point(s) on camp layout(s).
- 8. Plot distribution methods on camp layout(s).
- 9. Identify potential impact of weather/climate on water purification, storage, and distribution operations.
- 10. Determine risks, conducting operational risk assessments.
- 11. Identify "Off Limit" areas (i.e., generator sites, hazardous material sites, etc.).
- 12. Determine number and type of warning signs required.
- 13. Schedule Preventive Maintenance Checks and Services (PMCS).
- 14. Determine POL requirements.
- 15. Determine chemical requirements for purification/storage operations.
- 16. Determine camouflage, concealment, and decoy requirements.
- 17. Determine security requirements.
- 18. Estimate man-hour requirements, determining number of water support personnel required to support the mission.
- 19. Establish operator schedules.

- 20. Estimate logistical support (truck, forklift, etc.) required.
- 21. Establish Bill of Materials (BOM) including security, camouflage, environmental, and safety items.
- 22. Generate work request(s) for any required construction.
- 23. Establish a Course of Action (COA).
- 24. Record requirements for input into Appendix 2 to Annex D of the Operation Order.
- 25. Brief water support plan (if required).

### PREREQUISITE EVENTS:

1120-XENG-2502 1169-XENG-2553

#### RELATED EVENTS:

- 1. Appropriate Technical Manuals
- 2. ATTP 5-0.1 Commander and Staff Officer Guide
- 3. FM 10-52 Water Supply in Theaters of Operation
- 4. FM 10-52-1 Water Supply Point Equipment and Operations
- 5. FM 3-55 Information Collection
- 6. FMFM 7-29 Mountain Operations
- 7. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 8. MCO 3000.18\_ Marine Corps Force Deployment Planning and Execution (FDP&E) Manual
- 9. MCO 3500.27\_ Operational Risk Management (ORM)
- 10. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 11. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 12. MCRP 3-17.7F Project Management
- 13. MCRP 3-17.7N Base Camps
- 14. MCRP 3-17B Engineer Forms and Reports
- 15. MCRP 3-35.1D Cold Region Operations
- 16. MCRP 4-11B Environmental Considerations
- 17. MCRP 5-12A Operational Terms and Graphics
- 18. MCWP 3-17 Engineering Operations
- 19. MCWP 3-17.4 Engineer Reconnaissance
- 20. MCWP 3-17.7 General Engineering
- 21. MCWP 3-35.5 Jungle Operations
- 22. MCWP 3-35.6 Desert Operations
- 23. MCWP 3-41.1 Rear Area Operations
- 24. MCWP 4-1 Logistics Operations
- 25. MCWP 4-11 Tactical-Level Logistics
- 26. MCWP 4-11.5 SeaBee Operations in the MAGTF
- 27. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 28. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 29. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 30. NAVMED P-5010-5 Manual of Naval Preventive Medicine, Chapter 5, Water Supply Ashore
- 31. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 32. TM 5-813-1 Water Supply, Sources and General Considerations
- 33. TM 5-813-3 Water Supply, Water Treatment

- 34. TM 5-813-4 Water Supply, Water Storage
- 35. TM 5-813-5 Water Supply, Water Distribution
- 36. TM 5-813-7 Water Supply for Special Projects
- 37. TM 5-813-8 Water Desalination
- 38. TM 5-813-9 Water Supply, Pumping Stations
- 39. TM 5-820-4 Drainage for Areas Other Than Airfields
- $40.\ \mathrm{TM}\ 9406-15\_$  Grounding Procedures for Electromagnetic Interference Control and Safety

#### MATERIAL:

Area topographical map(s)

DA Form 1712-Rs (Water Reconnaissance Reports)
Water Smartcards (Figure C-3 of MCWP 3-17.4)
Area reconnaissance report(s)
Environmental impact report(s) (if any)
Camp layout(s)

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Initial training for this event is received in the Utilities Chief course (CID: M0311E2).

1120-XENG-2555: Plan field hygiene equipment support

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Platoon Commander, Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With a warning order requiring a base camp(s), map(s), reconnaissance report(s), camp layout(s) with water source and distribution points indicated, any environmental impact report(s), known soil type(s), and references.

 $\underline{\mathtt{STANDARD}}$ : So requirements of warning order are supported; with hygiene equipment site(s) drawn on the camp layout(s) and a Course of Action (COA) established; and input provided for Annex D and Appendix 6 to Annex Q of the Operation Order.

#### PERFORMANCE STEPS:

- 1. Review warning order, map(s), reconnaissance report(s), camp layout(s), and references.
- 2. Identify personnel requiring hygiene support.
- 3. Determine hygiene equipment requirements, selecting equipment sites and making provisions for traffic and drainage.
- 4. Determine environmental impacts.
- 5. Plot equipment sites on camp layout(s).
- 6. Identify potential impact of weather/climate on hygiene equipment

## operations.

- 7. Determine risks, conducting operational risk assessments.
- 8. Identify "Off Limit" areas (i.e., generator sites, hazardous material sites, etc.).
- 9. Determine number and type of warning sign(s) required.
- 10. Schedule Preventive Maintenance Checks and Services (PMCS).
- 11. Determine POL requirements.
- 12. Determine chemical requirements for hygiene operations.
- 13. Determine camouflage, concealment, and decoy requirements.
- 14. Determine security requirements.
- 15. Determine laundry/shower schedules for supported units.
- 16. Estimate man-hour requirements, determining number of water support personnel required to support hygiene mission.
- 17. Establish operator schedules.
- 18. Estimate logistical support (truck, forklift, etc.) required.
- 19. Establish a Bill of Materials (BOM) including security, camouflage, environmental, and safety items.
- 20. Generate work request(s) for any required construction.
- 21. Establish a Course of Action (COA).
- 22. Record requirements for input into Annex D and Appendix 6 to Annex Q of the Operation Order.
- 23. Brief hygiene equipment support plan (if required).

### PREREQUISITE EVENTS:

1120-XENG-2553 1169-XENG-2555

### RELATED EVENTS:

1120-XENG-2558 1120-XENG-2655 1120-XENG-2755 1120-XENG-2855

- 1. Appropriate Technical Manuals
- 2. ATTP 5-0.1 Commander and Staff Officer Guide
- 3. FM 3-55 Information Collection
- 4. FMFM 7-29 Mountain Operations
- 5. MCO 3000.18\_ Marine Corps Force Deployment Planning and Execution (FDP&E) Manual
- 6. MCO 3500.27\_ Operational Risk Management (ORM)
- 7. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 8. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 9. MCRP 3-17.7F Project Management
- 10. MCRP 3-17.7N Base Camps
- 11. MCRP 3-17B Engineer Forms and Reports
- 12. MCRP 3-35.1D Cold Region Operations
- 13. MCRP 4-11.1D Field Hygiene and Sanitation
- 14. MCRP 4-11B Environmental Considerations
- 15. MCRP 5-12A Operational Terms and Graphics
- 16. MCWP 3-17 Engineering Operations
- 17. MCWP 3-17.4 Engineer Reconnaissance
- 18. MCWP 3-17.7 General Engineering
- 19. MCWP 3-35.5 Jungle Operations
- 20. MCWP 3-35.6 Desert Operations
- 21. MCWP 3-41.1 Rear Area Operations
- 22. MCWP 4-1 Logistics Operations

- 23. MCWP 4-11 Tactical-Level Logistics
- 24. MCWP 4-11.5 SeaBee Operations in the MAGTF
- 25. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 26. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 27. TB MED 593 Guidelines for Field Waste Management
- $28.\ \text{TM}\ 11275-15/3\_$  Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 29. TM 5-820-4 Drainage for Areas Other Than Airfields
- $30.\ \text{TM}\ 9406-15\_$  Grounding Procedures for Electromagnetic Interference Control and Safety

#### MATERIAL:

Area topographical map(s)

Reconnaissance report(s)

Environmental impact report(s) (if any)

Camp layout(s) with water source and distribution points indicated

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Initial training for this event is received in the Utilities Chief course (CID: M0311E2).

1120-XENG-2558: Plan a field sanitation system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With a warning order requiring a base camp(s), map(s), reconnaissance report(s), camp layout(s), any environmental impact report(s), known soil type(s), and references.

**STANDARD:** So requirements of warning order are supported; with sanitation devices/sites drawn on the camp layout(s) and a Course of Action (COA) established; and input provided for Annex D and Appendix 6 to Annex Q of the Operation Order.

# PERFORMANCE STEPS:

- Review warning order, map(s), reconnaissance report(s), camp layout(s), and references.
- 2. Identify locations of equipment, devices and facilities to be supported/impacted by sanitation requirements.
- 3. Determine soil absorption rates.
- 4. Identify potential impact of weather/climate on sanitation devices.
- 5. Determine amount of waste water that will be generated.
- 6. Determine numbers of sanitation devices/facilities (grease traps,

head/latrines, garbage pits, and soakage pits) required.

- 7. Determine environmental impacts.
- 8. Plot sanitation devices/facilities on camp layout(s), making provisions for traffic.
- 9. Determine risks, conducting operational risk assessments.
- 10. Determine number and type of warning signs required.
- 11. Determine camouflage, concealment, and decoy requirements.
- 12. Estimate man-hour requirements, determining number of water support personnel required to support sanitation mission.
- 13. Determine cleaning/inspection/maintenance schedule.
- 14. Estimate logistical support (truck, forklift, etc.) required.
- 15. Establish a Bill of Materials (BOM) including camouflage, environmental, and safety items.
- 16. Generate work request(s) for any required construction.
- 17. Establish a Course of Action (COA).
- 18. Record requirements for input into Annex D and Appendix 6 to Annex Q of the Operation Order.
- 19. Brief sanitation plan (if required).

### PREREQUISITE EVENTS:

1120-XENG-2553 1120-XENG-2555 1169-XENG-2558

### RELATED EVENTS:

1120-XENG-2658 1120-XENG-2758 1120-XENG-2858

- 1. Appropriate Technical Manuals
- 2. ATTP 5-0.1 Commander and Staff Officer Guide
- 3. FM 3-55 Information Collection
- 4. FMFM 7-29 Mountain Operations
- 5. INSTALLATION SOP Installation's Standing Operating Procedures
- 6. MCO 3000.18\_ Marine Corps Force Deployment Planning and Execution (FDP&E) Manual
- 7. MCO 3500.27\_ Operational Risk Management (ORM)
- 8. MCO 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Policy Order
- 9. MCO P5090.2\_ Environmental Compliance and Protection Manual
- 10. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 11. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 12. MCRP 3-17.7F Project Management
- 13. MCRP 3-17.7N Base Camps
- 14. MCRP 3-17B Engineer Forms and Reports
- 15. MCRP 3-35.1D Cold Region Operations
- 16. MCRP 4-11.1D Field Hygiene and Sanitation
- 17. MCRP 4-11.8A Marine Corps Field Feeding Program
- 18. MCRP 4-11B Environmental Considerations
- 19. MCRP 5-12A Operational Terms and Graphics
- 20. MCWP 3-17 Engineering Operations
- 21. MCWP 3-17.4 Engineer Reconnaissance
- 22. MCWP 3-17.7 General Engineering
- 23. MCWP 3-35.5 Jungle Operations
- 24. MCWP 3-35.6 Desert Operations
- 25. MCWP 3-41.1 Rear Area Operations
- 26. MCWP 4-11.5 SeaBee Operations in the MAGTF
- 27. MCWP 5-1 Marine Corps Planning Process (MCPP)

- 28. TB MED 593 Guidelines for Field Waste Management
- 29. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 30. TM 5-820-4 Drainage for Areas Other Than Airfields

### MATERIAL:

Area topographical map(s)

Reconnaissance report(s)

Environmental impact report(s) (if any)

Camp layout(s) with equipment, devices and facilities indicated

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Initial training for this event is received in the Utilities Chief course (CID: M0311E2).

1120-XENG-2561: Plan an interior electrical wiring system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: With construction plans for a structure, a list of electrical fixtures/appliances to be installed, local code requirements, and references.

STANDARD: Per the National Electric Code (NEC) (NFPA 70).

## PERFORMANCE STEPS:

- 1. Review construction plans, local code and references.
- 2. Review list of electrical fixtures/appliances to be installed.
- 3. Calculate general lighting load.
- 4. Identify power requirements.
- 5. Determine code requirements.
- 6. Size branch circuits.
- 7. Size over current protection devices.
- 8. Plot electrical symbols on construction plans.
- 9. Ensure interior electrical wiring system plan conforms to references and the building's requirements.
- 10. Establish a Bill of Materials (BOM), including safety items.
- 11. Establish a Course of Action (COA).

**PREREQUISITE EVENTS:** 1169-XENG-2561

### RELATED EVENTS:

1120-XENG-2965 1120-XENG-2966

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- 1. ATTP 5-0.1 Commander and Staff Officer Guide
- 2. FM 5-553 General Drafting
- 3. MCRP 3-17.7F Project Management
- 4. MCRP 3-17.7K Theater of Operations Electrical Systems
- 5. MCRP 3-17.7M Construction Estimating
- 6. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 7. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 8. TM 5-704 Construction Print Reading in the Field
- 9. TM 5-811-1 Electric Power Supply and Distribution
- 10. TM 5-811-3 Electrical Design, Lightning and Static Electricity Protection
- 11. TM 5-811-7 Electrical Design, Cathodic Protection

## SUPPORT REQUIREMENTS:

MATERIAL: Construction plans

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Initial training for this event is received in the Utilities Chief course (CID: M0311E2).

1120-XENG-2581: Plan an interior plumbing system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With construction plans for a structure, a list of plumbing fixtures to be installed, local code requirements, and references.

STANDARD: Per the Uniform Plumbing Code (UPC).

# PERFORMANCE STEPS:

- 1. Review construction plans, local code, and references.
- 2. Review list of plumbing fixtures/appliances to be installed.
- 3. Identify plumbing symbols.
- 4. Determine code requirements.
- 5. Identify water supply requirements.
- 6. Identify sanitary drainage requirements.
- 7. Identify vent requirements.
- 8. Plot plumbing system/fixtures on construction plans.
- 9. Estimate man-hour requirements.
- 10. Determine risks, conducting operational risk assessments.
- 11. Establish a Bill of Materials (BOM), including safety items.
- 12. Establish a Course of Action (COA).

# PREREQUISITE EVENTS: 1169-XENG-2581

## RELATED EVENTS:

1120-XENG-2988 1120-XENG-2989

## **REFERENCES:**

- 1. ATTP 5-0.1 Commander and Staff Officer Guide
- 2. FM 5-553 General Drafting
- 3. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 4. MCRP 3-17.7F Project Management
- 5. MCRP 3-17.7M Construction Estimating
- 6. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 7. TM 5-704 Construction Print Reading in the Field
- 8. UPC (IAPMO/ANSI) Uniform Plumbing Code by International Association of Plumbing and Mechanical Officials/American National Standard Institute

## SUPPORT REQUIREMENTS:

MATERIAL: Construction plans

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Initial training for this event is received in the Utilities Chief course (CID: M0311E2).

<u>1120-XENG-2621</u>: Manage field electrical power generation/distribution system installation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Platoon Commander, Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, electrical support plan and established Course of Action (COA), camp layout, equipment, personnel, material, and references.

**STANDARD:** So unit's mission is safely supported in accordance with the Operation Order.

#### PERFORMANCE STEPS:

- 1. Review Operation Order, electrical support plan, and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Review equipment technical manuals.
- 5. Brief installation crew.
- 6. Monitor electrical power generation equipment installation.
- 7. Monitor electrical power distribution system installation.
- 8. Inspect installed field electrical power generation/distribution system.
- 9. Inspect equipment/system grounding.
- 10. Correct discrepancies.

PREREQUISITE EVENTS: 1120-XENG-2521

## RELATED EVENTS:

1120-XENG-2522 1120-XENG-2721 1120-XENG-2821

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. FM 3-34.480 Engineer Prime Power Operations
- 3. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 4. MCRP 3-17.7F Project Management
- 5. MCRP 3-17.7K Theater of Operations Electrical Systems
- 6. MCRP 3-17.7N Base Camps
- 7. MCRP 4-11B Environmental Considerations
- 8. MCWP 4-11.5 Seabee Operations in the MAGTF
- 9. TM 5-811-1 Electric Power Supply and Distribution
- $10.\ \mathrm{TM}\ 9406-15\_$  Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Climber's Set, Tree and Pole (TK-1141/C) [B0069]

Tool Kit, Intermediate Level Electricians (I-Level Tool Kit) (TK-1141/1) [B7900]

Forklift (with capacity to lift generators and distribution panels)

Earthmoving equipment (if required to prepare site(s))

Generator(s) (size and quantity designated by electrical support plan)

Ground Rod(s), GP-16 [H7213] - and/or -

Grounding Kit, MK-2551A/U [H7255]

Power Distribution Panel, Mobile Electric Power Distribution System

Replacement (MEPDIS-R):

5kW Indoor [B0027]

5kW Outdoor [B0028]

15kW [B0029]

30kW [B0030]

100kW [B0031] - and/or -

300kW [B0032]

(Sizes and quantities as designated by the electrical support plan)

### MATERIAL:

Electrical support plan with established Course of Action (COA)

Spill containment materials

Warning signs

Water (if needed)

Metal Plates (if needed)

Chemicals (if needed)

Magnesium sulfate (Epsom salts)

Copper sulfate (blue vitriol)

Calcium chloride

Sodium chloride (common table salt) - or -

Potassium nitrate (saltpeter)

### UNITS/PERSONNEL:

MOS 1141 (Electrician) (quantity designated by electrical support plan) MOS 1345 (Engineer Equipment Operator) to prepare site(s) and move equipment

#### MISCELLANEOUS:

#### ADMINISTRATIVE INSTRUCTIONS:

Only licensed Marines (MOS 1141) will install/operate MEPDIS-R Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for system installation

**SPECIAL PERSONNEL CERTS:** Personnel must be licensed MOS 1141 electricians to install and operate MEPDIS-R [B0027, B0028, B0029, B0030, B0031 and B0032].

1120-XENG-2622: Validate ground test set measurements

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** At a site supported by an established electrical power generation and distribution system, with a ground test set, test set measurements, and references.

**STANDARD:** So a safe ground for supported personnel and equipment is maintained.

# PERFORMANCE STEPS:

- 1. Review references.
- 2. Determine grounding electrode/system resistance (ohms) to ground requirements for electrical equipment/system.
- 3. Review ground test set measurement reports.
- 4. Identify potential impact of weather (humidity/temperature) on grounding system.
- 5. Direct improvements/upgrades to grounding system as necessary.

**PREREQUISITE EVENTS:** 1169-XENG-2622

#### RELATED EVENTS:

1120-XENG-2502 1120-XENG-2521 1120-XENG-2522 1120-XENG-2621 1120-XENG-2721

- 1. Appropriate Technical Manuals
- 2. 29 CFR 1910.269 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 269 Electrical Power Generation, Transmission, and Distribution

- 3. MCRP 3-17.7K Theater of Operations Electrical Systems
- 4. MCRP 4-11B Environmental Considerations
- 5. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 6. SL-3-10069A Components List for Ohmmeter (Earth Ground Resistance Tester), Model R1L-C
- 7. SL-3-10139A Components List for Grounding Kit, MK-2551A/U
- 8. SL-3-11509A Components List for Tool Kit, Lineman's Electrician (TK-1141)
- 9. TC 11-6 Grounding Techniques
- 10. TM 10069A-14 Operation and Maintenance Instructions with Illustrated Parts Breakdown for Ground Resistance Ohmmeter Model R1L-C
- 11. TM 11509A-OR Users Manual for Model i1000s AC Current Probe for Oscilloscopes
- 12. TM 11-5820-1118-13&P Operator and Field Maintenance Manual Including Repair Parts and Special Tools List for Grounding Kit, MK-2551A/U 13. TM 5-690 Grounding and Bonding in Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) Facilities 14. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Ground Rod(s), GP-16 [H7213] - and/or 
Grounding Kit, MK-2551A/U [H7255]

Ohmmeter, Earth Ground Resistance Tester, Model R1L-C [A7059]

#### MATERIAL:

Water (if needed)
Metal Plates (if needed)
Chemicals (if needed)
Magnesium sulfate (Epsom salts)
Copper sulfate (blue vitriol)
Calcium chloride
Sodium chloride (common table salt) - or Potassium nitrate (saltpeter)

UNITS/PERSONNEL: MOS 1141 (Electrician)

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Initial training for this event is received in the Utilities Chief course (CID: M0311E2).

<u>1120-XENG-2641</u>: Manage field refrigeration/environmental control equipment set up/installation

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Platoon Commander, Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

## INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, refrigeration and environmental control support plan and established Course of Action (COA), camp layout, equipment, personnel, material, and references.

<u>STANDARD</u>: So unit's mission is safely supported in accordance with the Operation Order.

#### PERFORMANCE STEPS:

- 1. Review Operation Order, refrigeration and environmental control support plan, and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Review equipment technical manuals.
- 5. Brief installation crew.
- 6. Monitor environmental control unit set up/installation.
- 7. Monitor set up of refrigeration system(s).
- 8. Inspect installed field refrigeration/environmental control equipment.
- 9. Inspect equipment grounding.
- 10. Ensure inspection of refrigeration equipment by preventive medicine personnel.
- 11. Correct discrepancies.

PREREQUISITE EVENTS: 1120-XENG-2541

#### RELATED EVENTS:

1120-XENG-2741 1120-XENG-2841

## REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 3. MCRP 3-17.7F Project Management
- 4. MCRP 3-17.7N Base Camps
- 5. MCRP 4-11.8A Marine Corps Field Feeding Program
- 6. MCRP 4-11B Environmental Considerations
- 7. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# **SUPPORT REQUIREMENTS:**

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]

Forklift (with capacity to lift refrigeration/environmental control equipment)

Earthmoving equipment (if required to prepare site(s))

Environmental Control Units (ECU) (Sizes and quantities as designated by the support plan)

Refrigeration systems (Sizes and quantities as designated by the support plan)

#### MATERIAL:

Refrigeration and environmental control support plan with established Course of Action (COA)  $\,$ 

Warning signs

#### UNITS/PERSONNEL:

MOS 1345 (Engineer Equipment Operator) to prepare site(s) and move equipment

MOS 1141 (Electrician) to establish electrical power support

MOS 1161 (Refrigeration and Air Conditioning Technician) to set up/install equipment

Preventive Medicine Technician

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for equipment set up/installation.

**1120-XENG-2653**: Manage field water purification/storage/distribution system installation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, water support plan and established Course of Action (COA), camp layout, equipment, personnel, material, and references.

**STANDARD:** So unit's mission is safely supported in accordance with the Operation Order.

# PERFORMANCE STEPS:

- 1. Review the Operation Order, water support plan, Water Reconnaissance Report, and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Review equipment technical manuals.
- 5. Brief installation crew.
- 6. Manage water source development.
- 7. Manage water purification equipment set up.
- 8. Manage field water storage equipment set up.
- 9. Manage field water distribution system installation.
- 10. Inspect installed field water purification/storage/distribution system.
- 11. Inspect equipment grounding.
- 12. Ensure inspection of installed system by preventive medicine personnel.
- 13. Correct discrepancies.

PREREQUISITE EVENTS: 1120-XENG-2553

# RELATED EVENTS:

1120-XENG-2655 1120-XENG-2658 1120-XENG-2752

1120-XENG-2753 1120-XENG-2853

## **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 5. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 6. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 7. MCRP 3-17.7F Project Management
- 8. MCRP 3-17.7N Base Camps
- 9. MCRP 4-11B Environmental Considerations
- 10. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 11. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 12. NAVMED P-5010-5 Manual of Naval Preventive Medicine, Chapter 5, Water Supply Ashore
- $13.\ {
  m TM}\ 9406-15\_$  Grounding Procedures for Electromagnetic Interference Control and Safety

#### SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Water Quality Analysis Set, Purification (WQAS-P) [B2630]

Forklift (with capacity to lift designated water support equipment)

Earthmoving equipment (if required to prepare site(s))

Electric power generation and distribution equipment (if required)

Water support equipment as designated by the water support plan

## MATERIAL:

DA Form 1712-R (Water Reconnaissance Report)

Water support plan with established Course of Action (COA)

DA Form 1712-R (Water Reconnaissance Report)

Water Smartcard (see Figure C-3 of MCWP 3-17.4)

Spill containment materials

Warning signs

### UNITS/PERSONNEL:

MOS 1345 (Engineer Equipment Operator) to prepare site(s) and move equipment

MOS 1141 (Electrician) to establish electrical power support

MOS 1171 (Water Support Technician) (quantity designated by water support

plan) to set up/install equipment

Preventive Medicine Technician

## MISCELLANEOUS:

## ADMINISTRATIVE INSTRUCTIONS:

Only licensed Marines (MOS 1171) will install/operate water support equipment

Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for system installation

**SPECIAL PERSONNEL CERTS:** Personnel must be licensed MOS 1171 water support technicians to install and operate water support equipment.

1120-XENG-2655: Manage field hygiene equipment set up

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, hygiene support plan and established Course of Action (COA), camp layout, equipment, personnel, material, and references.

**STANDARD:** So unit's mission is safely supported in accordance with the Operation Order.

### PERFORMANCE STEPS:

- 1. Review the Operation Order, hygiene support plan, and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Review equipment technical manuals.
- 5. Brief installation crew.
- 6. Monitor set up of field shower facility (if required).
- 7. Monitor set up of laundry unit(s) (if required).
- 8. Monitor set up of M-80/M-85 water heater(s) (if required).
- 9. Inspect set up field hygiene equipment.
- 10. Inspect equipment grounding.
- 11. Ensure inspection of installed equipment by preventive medicine personnel.
- 12. Correct discrepancies.

**PREREQUISITE EVENTS:** 1120-XENG-2555

#### RELATED EVENTS:

1120-XENG-2653 1120-XENG-2658 1120-XENG-2755 1120-XENG-2855

- 1. Appropriate Technical Manuals
- 2. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 3. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 4. MCRP 3-17.7F Project Management
- 5. MCRP 3-17.7N Base Camps
- 6. MCRP 4-11.1D Field Hygiene and Sanitation
- 7. MCRP 4-11B Environmental Considerations

- 8. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 9. TB MED 593 Guidelines for Field Waste Management
- $10.\ \mathrm{TM}\ 9406-15\_$  Grounding Procedures for Electromagnetic Interference Control and Safety

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Forklift (with capacity to lift designated hygiene equipment)
Earthmoving equipment (if required to prepare site(s))
Electric power generation and distribution equipment (if required)
Hygiene equipment as designated by the hygiene support plan

#### MATERIAL:

Hygiene support plan with established Course of Action (COA) Spill containment materials Warning signs

## UNITS/PERSONNEL:

MOS 1345 (Engineer Equipment Operator) to prepare site(s) and move equipment

MOS 1141 (Electrician) to establish electrical power support

MOS 1171 (Water Support Technician) (quantity designated by hygiene support plan) to set up equipment

Preventive Medicine Technician

## MISCELLANEOUS:

## ADMINISTRATIVE INSTRUCTIONS:

Only licensed Marines (MOS 1171) will install/operate hygiene equipment Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for system installation

<u>SPECIAL PERSONNEL CERTS</u>: Personnel must be licensed MOS 1171 water support technicians to install and operate hygiene equipment.

1120-XENG-2658: Manage camp sanitation system installation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: With an Operation Order, field sanitation plan and established Course of Action (COA), environmental impact report, area map, camp layout, equipment, personnel, material, and references.

**STANDARD:** So unit's mission is safely supported in accordance with the Operation Order.

## PERFORMANCE STEPS:

- 1. Review the Operation Order, field sanitation plan, environmental impact report, and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Brief installation crew.
- 5. Monitor installation of grease traps (if required).
- 6. Monitor installation of head/latrines (if required).
- 7. Monitor installation of garbage pits (if required).
- 8. Monitor installation of soakage pits (if required).
- 9. Inspect installed sanitation system.
- 10. Ensure inspection of installed system by preventive medicine personnel.
- 11. Correct discrepancies.

# PREREQUISITE EVENTS: 1120-XENG-2558

### RELATED EVENTS:

1120-XENG-2653 1120-XENG-2655 1120-XENG-2758 1120-XENG-2858

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. INSTALLATION SOP Installation's Standing Operating Procedures
- 3. MCO P5090.2 Environmental Compliance and Protection Manual
- 4. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 5. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 6. MCRP 3-17.7F Project Management
- 7. MCRP 3-17.7N Base Camps
- 8. MCRP 4-11.1D Field Hygiene and Sanitation
- 9. MCRP 4-11B Environmental Considerations
- 10. MCWP 3-41.1 Rear Area Operations
- 11. TB MED 593 Guidelines for Field Waste Management
- 12. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment

# SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Earthmoving equipment (if required to prepare site(s))
Equipment designated by the sanitation plan

#### MATERIAL:

Sanitation plan with established Course of Action (COA) Material designated by the sanitation plan Warning signs

### UNITS/PERSONNEL:

MOS 1345 (Engineer Equipment Operator) to prepare site(s) MOS 1371 (Combat Engineer) to construct sanitation devices

MOS 1171 (Water Support Technician) (quantity designated by sanitation plan) to install device(s)/develop site(s) Preventive Medicine Technician

OTHER SUPPORT REQUIREMENTS: Marines of any MOS can assist in establishing and maintaining sanitary sites/devices

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for site development.

 $\underline{\textbf{1120-XENG-2721}}$ : Manage field electrical power generation/distribution system operation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, camp layout, electrical power generation/distribution system, operators, and references.

**STANDARD:** So unit's mission is safely supported in accordance with the Operation Order.

## PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Inspect installed electrical power generation/distribution system.
- 3. Review safety concerns.
- 4. Review environmental concerns.
- 5. Establish operator schedule.
- 6. Brief personnel.
- 7. Monitor operation of generator sets.
- 8. Monitor operation of floodlight sets.
- 9. Monitor operation of load banks.
- 10. Monitor electrical distribution system.
- 11. Ensure electrical loads are balanced.
- $12.\ \mathrm{Manage}\ \mathrm{electrical}\ \mathrm{power}\ \mathrm{generation/distribution}\ \mathrm{system}\ \mathrm{operator}\ \mathrm{maintenance}.$
- 13. Ensure records/reports are updated/completed.

### PREREQUISITE EVENTS:

1120-XENG-2621 1120-XENG-2622

# RELATED EVENTS:

| 1120-ADMN-2073 | 1120-XENG-2521 | 1120-XENG-2741 |
|----------------|----------------|----------------|
| 1120-XENG-2753 | 1120-XENG-2755 | 1120-XENG-2758 |

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCRP 3-17.7K Theater of Operations Electrical Systems
- 3. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 4. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures
- 6. TM 5-811-1 Electric Power Supply and Distribution
- 7. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

### SUPPORT REQUIREMENTS:

UNITS/PERSONNEL: MOS 1141 (Electricians) to operate/maintain equipment and
system

<u>1120-XENG-2741</u>: Manage field refrigeration/environmental control equipment operation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, camp layout, refrigeration/environmental control equipment, personnel, and references.

**STANDARD:** So unit's mission is safely supported in accordance with the Operation Order.

## PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Inspect installed refrigeration/air conditioning equipment.
- 3. Review safety concerns.
- 4. Review environmental concerns.
- 5. Establish maintenance schedule.
- 6. Brief personnel.
- 7. Monitor operation of air conditioning equipment.
- 8. Monitor operation of refrigeration units.
- 9. Manage refrigeration/air conditioning equipment maintenance.
- 10. Ensure records/reports are updated/completed.

PREREQUISITE EVENTS: 1120-XENG-2641

# RELATED EVENTS:

| 1120-ADMN-2073 | 1120-XENG-2541 | 1120-XENG-2721 |
|----------------|----------------|----------------|
| 1120-XENG-2753 | 1120-XENG-2755 | 1120-XENG-2758 |

- 1. Appropriate Technical Manuals
- 2. SL-3-11502A Components List for Cooling and Refrigeration Expeditionary Kit (CREK)
- 3. SL-3-11574A Components List for Large Field Refrigeration System
- 4. SL-3-11609A Components List for Small Field Refrigeration System
- 5. SL-3-4120 Components List for Family of Environmental Control Units
- 6. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 7. TM 4700-15/1 Ground Equipment Record Procedures
- $8.\ \ \text{TM } 9406-15\_$  Grounding Procedures for Electromagnetic Interference Control and Safety

<u>UNITS/PERSONNEL</u>: MOS 1161 (Refrigeration and Air Conditioning Technicians) to maintain equipment

1120-XENG-2752: Validate water test equipment measurements

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Platoon Commander, Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With water test measurement reports, equipment, personnel, and references.

 $\underline{\mathtt{STANDARD}}$ : So continuous safety of unit's potable water supply is maintained per NAVMED P-5010-10.

## PERFORMANCE STEPS:

- 1. Review references.
- 2. Review test measurement reports.
- 3. Have water tested.
- 4. Ensure measurements are within standards.
- 5. Take necessary actions to improve product water quality, disabling any PMT in the area.

**PREREQUISITE EVENTS:** 1169-XENG-2752

**RELATED EVENTS:** 1120-XENG-2753

- 1. FM 10-52 Water Supply in Theaters of Operation
- 2. FM 10-52-1 Water Supply Point Equipment and Operations
- 3. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 4. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 5. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 6. TM 10-6630-222-12&P Operator and Unit Maintenance Manual (Including Repair

Parts and Special Tools List) for Water Quality Analysis Set: Purification (WQAS-P)

- 7. TM 5-813-3 Water Supply, Water Treatment
- 8. TM 5-813-4 Water Supply, Water Storage
- 9. TM 5-813-5 Water Supply, Water Distribution

#### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Water Quality Analysis Set, Purification (WQAS-P) [B2630]

MATERIAL: Water test measurement reports

UNITS/PERSONNEL: MOS 1171 (Water Support Technician) to test water

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Initial training for this event is received in the Utilities Chief course (CID: M0311E2).

**SPECIAL PERSONNEL CERTS:** Operators of the Water Quality Analysis Set, Purification (WQAS-P) [B2630] must be licensed.

<u>1120-XENG-2753</u>: Manage field water purification/storage/distribution system operation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: With an Operation Order, camp layout, water purification/storage/distribution system, operators, and references.

**STANDARD:** So unit's mission is safely supported in accordance with the Operation Order.

#### PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Inspect installed water purification/storage/distribution system.
- 3. Review safety concerns.
- 4. Review environmental concerns.
- 5. Establish operator schedule.
- 6. Brief personnel.
- 7. Monitor operation of water purification equipment.
- 8. Monitor operation of water storage/distribution system.
- 9. Monitor operation of Forward Area Water Point Supply Systems.
- 10. Monitor operation of SIXCON module systems.
- 11. Monitor operation of water pump assemblies.

- 12. Monitor use of collapsible tanks and bladders.
- 13. Ensure water quantity and quality meet requirements.
- 14. Ensure all water production reports and logs are completed and submitted.
- $15.\ \mathrm{Manage}\ \mathrm{water}\ \mathrm{purification/storage/distribution}\ \mathrm{equipment}\ \mathrm{operator}\ \mathrm{maintenance}.$
- 16. Ensure records/reports are updated/completed.

#### PREREQUISITE EVENTS:

1120-XENG-2653 1120-XENG-2752

### RELATED EVENTS:

1120-ADMN-2073 1120-XENG-2553 1120-XENG-2721 1120-XENG-2755 1120-XENG-2758

#### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 5. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 8. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 9. NAVMED P-5010-5 Manual of Naval Preventive Medicine, Chapter 5, Water Supply Ashore
- 10. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 11. TM 4700-15/1\_ Ground Equipment Record Procedures
- 12. TM 5-813-1 Water Supply, Sources and General Considerations
- 13. TM 5-813-3 Water Supply, Water Treatment
- 14. TM 5-813-4 Water Supply, Water Storage
- 15. TM 5-813-5 Water Supply, Water Distribution
- 16. TM 5-813-7 Water Supply for Special Projects
- 17. TM 5-813-8 Water Desalination
- 18. TM 5-813-9 Water Supply, Pumping Stations
- 19. TM 5-820-4 Drainage for Areas Other Than Airfields

# SUPPORT REQUIREMENTS:

UNITS/PERSONNEL: MOS 1171 (Water Support Technicians) to operate/maintain
equipment and system

1120-XENG-2755: Manage field hygiene equipment operation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, camp layout, hygiene equipment, operators, and references.

**STANDARD:** So unit's mission is safely supported in accordance with the Operation Order.

## PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Inspect installed hygiene equipment.
- 3. Review safety concerns.
- 4. Review environmental concerns.
- 5. Establish operator schedule.
- 6. Brief personnel.
- 7. Monitor operation of laundry units.
- 8. Monitor operation of shower facilities.
- 9. Monitor operation of water heaters.
- 10. Ensure drainage system is functioning properly.
- 11. Ensure daily sanitation standards are met.
- 12. Manage hygiene equipment operator maintenance.
- 13. Ensure records/reports are updated/completed.

## PREREQUISITE EVENTS:

1120-XENG-2655 1120-XENG-2658

#### RELATED EVENTS:

| 1120-ADMN-2073 | 1120-XENG-2555 | 1120-XENG-2721 |
|----------------|----------------|----------------|
| 1120-XENG-2741 | 1120-XENG-2753 | 1120-XENG-2758 |

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. INSTALLATION SOP Installation's Standing Operating Procedures
- 3. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 4. MCRP 4-11.1D Field Hygiene and Sanitation
- 5. MCRP 4-11B Environmental Considerations
- 6. TB MED 593 Guidelines for Field Waste Management
- 7. TM 11275-15/3 Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 8. TM 4700-15/1\_ Ground Equipment Record Procedures
- 9. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# **SUPPORT REQUIREMENTS:**

UNITS/PERSONNEL: MOS 1171 (Water Support Technicians) to operate/maintain
equipment

1120-XENG-2758: Manage camp sanitation system operation

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Platoon Commander, Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

# INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, camp layout, camp sanitation system, personnel, and references.

**STANDARD:** So unit's mission is safely supported in accordance with the Operation Order.

### PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Inspect components of camp sanitation system.
- 3. Review safety concerns.
- 4. Review environmental concerns.
- 5. Coordinate with Preventive Medicine.
- 6. Monitor operation of camp sanitation system.
- 7. Identify components needing cleaning/repair/closure.
- 8. Brief personnel.
- 9. Monitor system maintenance.

### PREREQUISITE EVENTS:

1120-XENG-2655 1120-XENG-2658

#### RELATED EVENTS:

1120-XENG-2721 1120-XENG-2741 1120-XENG-2753 1120-XENG-2755

### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. INSTALLATION SOP Installation's Standing Operating Procedures
- 3. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 4. MCRP 3-17.7N Base Camps
- 5. MCRP 4-11.1D Field Hygiene and Sanitation
- 6. MCRP 4-11B Environmental Considerations
- 7. MCWP 3-41.1 Rear Area Operations
- 8. TB MED 593 Guidelines for Field Waste Management
- 9. TM 5-820-4 Drainage for Areas Other Than Airfields

# SUPPORT REQUIREMENTS:

UNITS/PERSONNEL: MOS 1171 (Water Support Technicians) to operate/maintain
system

<u>1120-XENG-2821</u>: Manage field electrical power generation/distribution system recovery

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, camp layout, equipment, personnel, and references.

**STANDARD:** So equipment is available for redeployment and equipment records are updated.

## PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Brief recovery crew.
- 5. Monitor distribution system recovery.
- 6. Monitor generator recovery.
- 7. Ensure Limited Technical Inspections (LTI) are conducted/recorded.
- 8. Ensure SL-3/BII inventories are conducted/recorded.
- 9. Resolve discrepancies.

### RELATED EVENTS:

| 1120-ADMN-2007 | 1120-ADMN-2065 | 1120-ADMN-2073 |
|----------------|----------------|----------------|
| 1120-XENG-2621 | 1120-XENG-2721 | 1120-XENG-2841 |
| 1120-XENG-2853 | 1120-XENG-2855 | 1120-XENG-2858 |

### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCRP 4-11.4A Recovery and Battle Damage Assessment and Repair
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures
- 4. TM 9-6115-624-BD Battlefield Damage Assessment and Repair for Generators

## SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Climber's Set, Tree and Pole (TK-1141/C) [B0069]

Tool Kit, Intermediate Level Electricians (I-Level Tool Kit) (TK-1141/1) [B7900]

Forklift (with capacity to lift generators and distribution panels)

## MATERIAL:

Electrical support plan with established Course of Action (COA) Spill containment materials

#### UNITS/PERSONNEL:

MOS 1141 (Electrician) (quantity designated by electrical support plan) MOS 1345 (Engineer Equipment Operator) to move equipment

<u>1120-XENG-2841</u>: Manage field refrigeration/environmental control equipment recovery

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, camp layout, equipment, personnel, and references.

**STANDARD:** So equipment is available for redeployment and equipment records are updated.

### PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Brief recovery crew.
- 5. Monitor refrigeration equipment recovery.
- 6. Monitor recovery of Environmental Control Units.
- 7. Ensure Limited Technical Inspections (LTI) are conducted/recorded.
- 8. Ensure SL-3/BII inventories are conducted/recorded.
- 9. Resolve discrepancies.

# RELATED EVENTS:

| 1120-ADMN-2007 | 1120-ADMN-2065 | 1120-ADMN-2073 |
|----------------|----------------|----------------|
| 1120-XENG-2641 | 1120-XENG-2741 | 1120-XENG-2821 |
| 1120-XENG-2853 | 1120-XENG-2855 | 1120-XENG-2858 |

#### REFERENCES:

- 1. MCRP 4-11.4A Recovery and Battle Damage Assessment and Repair
- 2. SL-3-11502A Components List for Cooling and Refrigeration Expeditionary Kit (CREK)
- 3. SL-3-11574A Components List for Large Field Refrigeration System
- 4. SL-3-11609A Components List for Small Field Refrigeration System
- 5. SL-3-4120 Components List for Family of Environmental Control Units
- 6. TM 11502A-OI User's Manual for Cooling and Refrigeration Expeditionary Kit (CREK)
- 7. TM 11574A-OI Operation and Unit Maintenance Instructions with Illustrated Parts Breakdown for Large Field Refrigeration System
- 8. TM 11609A-OI Operation and Unit Maintenance Instructions with Illustrated Parts Breakdown for Small Field Refrigeration System
- 9. TM 4700-15/1 Ground Equipment Record Procedures

# **SUPPORT REQUIREMENTS:**

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]
Forklift (with capacity to lift equipment)

<u>MATERIAL</u>: Refrigeration and environmental control support plan with established Course of Action (COA)

### UNITS/PERSONNEL:

MOS 1141 (Electrician) to disconnect electrical power MOS 1161 (Refrigeration and Air Conditioning Technician) (quantity

designated by support plan)
MOS 1345 (Engineer Equipment Operator) to move equipment

1120-XENG-2853: Manage field water purification/storage/distribution system
recovery

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, camp layout, equipment, personnel, and references.

**STANDARD:** So equipment is available for redeployment and equipment records are updated.

## PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Brief recovery crew.
- 5. Monitor recovery of water purification equipment.
- 6. Monitor water storage equipment recovery.
- 7. Monitor water distribution equipment recovery.
- 8. Ensure Limited Technical Inspections (LTI) are conducted/recorded.
- 9. Ensure SL-3/BII inventories are conducted/recorded.
- 10. Resolve discrepancies.

### RELATED EVENTS:

| 1120-ADMN-2007 | 1120-ADMN-2065 | 1120-ADMN-2073 |
|----------------|----------------|----------------|
| 1120-XENG-2653 | 1120-XENG-2753 | 1120-XENG-2821 |
| 1120-XENG-2841 | 1120-XENG-2855 | 1120-XENG-2858 |

## REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCRP 4-11.4A Recovery and Battle Damage Assessment and Repair
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Forklift (with capacity to lift water support equipment)

MATERIAL: Water support plan with established Course of Action (COA)

# UNITS/PERSONNEL:

MOS 1171 (Water Support Technician) (quantity designated by water support

plan)

MOS 1345 (Engineer Equipment Operator) to move equipment

1120-XENG-2855: Manage field hygiene equipment recovery

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

 $\underline{\text{CONDITION}}$ : With an Operation Order, camp layout, equipment, personnel, and  $\underline{\text{references}}$ .

**STANDARD:** So equipment is available for redeployment and equipment records are updated.

## PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Brief recovery crew.
- 5. Monitor shower facility recovery.
- 6. Monitor laundry unit recovery.
- 7. Ensure Limited Technical Inspections (LTI) are conducted/recorded.
- 8. Ensure SL-3/BII inventories are conducted/recorded.
- 9. Resolve discrepancies.

## RELATED EVENTS:

| 1120-ADMN-2007 | 1120-ADMN-2065 | 1120-ADMN-2073 |
|----------------|----------------|----------------|
| 1120-XENG-2655 | 1120-XENG-2755 | 1120-XENG-2821 |
| 1120-XENG-2841 | 1120-XENG-2853 | 1120-XENG-2858 |

- 1. MCRP 4-11.4A Recovery and Battle Damage Assessment and Repair
- 2. SL-3-01034 Components List for Tank, Fabric, Collapsible, Water Storage, 3,000 Gallon
- 3. SL-3-10006A Components List for Bath Shower Unit, Expedition
- 4. TM 01034E-12&P/1 Operator's and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Tank, Fabric, Collapsible, Water Storage, 3,000 Gallons
- 5. TM 10006A-14&P/14 Erection, Operation, Storage, Inspection and Maintenance Instructions with Illustrated Parts Breakdown for Shower Facility, Bare Base
- 6. TM 10-4520-259-13&P Operator's, Unit and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Heater, Water, Liquid Fuel, Models M-80 and M-85
- 7. TM 10-4630-206-12&P Operator and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Sewage Ejection Pump (SEP)
- 8. TM 11413A-OI/1 Operator/Maintenance Manual Instructions with Repair Parts and Special Tools List (RPSTL) for Containerized Batch Laundry
- 9. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Forklift (with capacity to lift hygiene equipment)

MATERIAL: Hygiene support plan with established Course of Action (COA)

#### UNITS/PERSONNEL:

MOS 1171 (Water Support Technician) (quantity designated by hygiene support plan)

MOS 1345 (Engineer Equipment Operator) to move equipment

1120-XENG-2858: Manage camp sanitation system recovery/closure

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Platoon Commander, Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, environmental impact report, area map, camp layout, equipment, personnel, and references.

**STANDARD:** So reusable devices are recovered and waste areas are covered, marked, and recorded.

## PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Review safety requirements.
- 3. Review environmental impact report and area map.
- 4. Inspect sanitation system.
- 5. Brief recovery/closure crew.
- 6. Monitor recovery of sanitation devices/warning signs.
- 7. Monitor closure of sanitation pits.
- 8. Ensure closed sanitation sites are marked.
- 9. Inspect closed/marked sanitation system.
- 10. Ensure inspection of closed/marked system by preventive medicine personnel.
- 11. Ensure closed latrine sites are recorded on area map.
- 12. Forward marked map to those concerned.

### RELATED EVENTS:

### **REFERENCES:**

- 1. INSTALLATION SOP Installation's Standing Operating Procedures
- 2. MCRP 4-11.1D Field Hygiene and Sanitation
- 3. MCRP 4-11B Environmental Considerations

4. TB MED 593 Guidelines for Field Waste Management

## SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Earthmoving equipment (to cover sanitation pits)

### MATERIAL:

Area map

Environmental impact report

Field sanitation plan with established Course of Action (COA)

<u>UNITS/PERSONNEL</u>: MOS 1345 (Engineer Equipment Operator) for earth moving requirements

OTHER SUPPORT REQUIREMENTS: Marines of any MOS can assist in recovery and closure of sanitation devices/pits

### MISCELLANEOUS:

### ADMINISTRATIVE INSTRUCTIONS:

Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for site closure
A map/diagram of closed site(s) should be forwarded to higher headquarters

1120-XENG-2965: Manage interior electrical wiring system installation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Utilities Officer

per Installation's SOP

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: At a structure requiring electrical work, with an interior <u>electrical</u> plan, a Bill of Materials (BOM), personnel, tools, and references.

**STANDARD:** So structure is wired per the interior electrical plan, in compliance with the National Electric Code (NEC) (NFPA 70).

- 1. Review blueprints, electrical plan and Bill of Materials (BOM).
- 2. Determine safety/code requirements.
- 3. Brief installation crew.
- 4. Inventory BOM.
- 5. Supervise wire runs (and conduit installation, if applicable).
- 6. Supervise installation of devices/fixtures.
- 7. Check service equipment.
- 8. Test the installed electrical wiring system.

## RELATED EVENTS:

1120-XENG-2561 1120-XENG-2966 1169-XENG-2965

### **REFERENCES:**

- 1. MCRP 3-17.7K Theater of Operations Electrical Systems
- 2. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 3. TM 5-704 Construction Print Reading in the Field
- 4. TM 5-811-1 Electric Power Supply and Distribution
- 5. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

### SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Tool Kit, Intermediate Level Electrician's (TK-1141/1) [B7900]

MATERIAL: Bill of Materials (BOM)

UNITS/PERSONNEL: MOS 1141 (Electrician)

1120-XENG-2966: Manage interior electrical wiring system repairs

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**BILLETS:** Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: At a structure with a faulty electrical system, a report detailing specific repairs to be made, a Bill of Materials (BOM), tools, and references.

**STANDARD:** So repairs detailed on the report are made and system is brought into compliance with the National Electric Code (NEC) (NFPA 70).

- 1. Examine interior electrical wiring system needing repairs.
- Identify ELECTROCUTION HAZARD(S).
- 3. Review references, determining safety/code requirements.
- 4. Assess risks (ORM).
- 5. Review blueprints, electrical plan and Bill of Materials (BOM).
- 6. Brief repair crew.
- 7. Inventory BOM.
- 8. Ensure hazardous energy is controlled (Lockout/Tagout).
- 9. Supervise wire repairs (and conduit repairs, if applicable).
- 10. Supervise replacement of defective devices/fixtures.
- 11. Check service equipment.
- 12. Test the repaired electrical wiring system.

# PREREQUISITE EVENTS:

1120-ADMN-2001 1120-ADMN-2002

## RELATED EVENTS:

1120-XENG-2561 1120-XENG-2965

#### REFERENCES:

- 1. MCRP 3-17.7F Project Management
- 2. MCRP 3-17.7K Theater of Operations Electrical Systems
- 3. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 4. TC 11-6 Grounding Techniques
- 5. TM 5-690 Grounding and Bonding in Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) Facilities
- 6. TM 5-704 Construction Print Reading in the Field
- 7. TM 5-811-1 Electric Power Supply and Distribution
- $8.\ \ \text{TM } 9406-15\_$  Grounding Procedures for Electromagnetic Interference Control and Safety

## SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Tool Kit, Intermediate Level Electrician's (TK-1141/1) [B7900]

MATERIAL: Bill of Materials (BOM)

UNITS/PERSONNEL: MOS 1141 (Electrician)

1120-XENG-2988: Manage interior plumbing system installation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Utilities Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** At a structure requiring plumbing, with an interior plumbing system plan, Bill of Materials (BOM), personnel, tools, and references.

- 1. Review blueprints, plumbing plan and Bill of Materials (BOM).
- 2. Determine safety/code requirements.
- 3. Brief installation crew.
- 4. Inventory BOM.
- 5. Supervise installation of water supply system.
- 6. Supervise installation of sanitary drainage system.

- 7. Supervise installation of vent system.
- 8. Supervise installation of fixtures.
- 9. Test the installed plumbing system.

## RELATED EVENTS:

1120-XENG-2581 1120-XENG-2989

#### REFERENCES:

- 1. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 2. MCRP 3-17.7F Project Management
- 3. TM 5-704 Construction Print Reading in the Field
- 4. UPC (IAPMO/ANSI) Uniform Plumbing Code by International Association of Plumbing and Mechanical Officials/American National Standard Institute

## SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Plumbing tools

MATERIAL: Bill of Materials (BOM)

UNITS/PERSONNEL: MOS 1171 (Water Support Technician)

1120-XENG-2989: Manage interior plumbing system repairs

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Utilities Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: At a structure with a faulty plumbing system, a report detailing specific repairs to be made, a Bill of Materials (BOM), tools, and references.

STANDARD: So repairs detailed on the report are made and system is brought into compliance with the Uniform Plumbing Code (UPC) (IAPMO/ANSI).

- 1. Examine plumbing system needing repairs.
- 2. Review references, determining safety/code requirements.
- 3. Assess risks (ORM).
- 4. Review blueprints, plumbing plan and Bill of Materials (BOM).
- 5. Brief repair crew.
- 6. Inventory BOM.
- 7. Supervise repairs to water supply system.
- 8. Supervise repairs to sanitary drainage system.
- 9. Supervise repairs to vent system.
- 10. Supervise replacement of fixtures.
- 11. Test the repaired plumbing system.

PREREQUISITE EVENTS: 1120-ADMN-2001

# RELATED EVENTS:

1120-XENG-2581 1120-XENG-2988

## REFERENCES:

- 1. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 2. MCRP 3-17.7F Project Management
- 3. TB SIG 222 Solder and Soldering
- 4. TM 5-704 Construction Print Reading in the Field
- 5. UPC (IAPMO/ANSI) Uniform Plumbing Code by International Association of Plumbing and Mechanical Officials/American National Standard Institute

# SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE) Plumbing tools

MATERIAL: Bill of Materials (BOM)

UNITS/PERSONNEL: MOS 1171 (Water Support Technician)

# ENG & UTIL T&R MANUAL

# CHAPTER 8

# MOS 1141 INDIVIDUAL EVENTS

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## ENG & UTIL T&R MANUAL

### CHAPTER 8

### MOS 1141 INDIVIDUAL EVENTS

- **8000. PURPOSE**. This chapter details the individual events that pertain to the Electrician. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful.
- **8001. EVENT CODING.** Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX-XXXX. This chapter utilizes the following methodology
- a. Field one. This field represents the community. This chapter contains the following community codes:
- b. Field two. This field represents the functional/duty area. This chapter contains the following functional/duty areas:
  - Code Description
    ADMN Administration
    MANT Maintenance
    XENG General Engineering
  - c. Field three.
- (1) The first digit of this field provides the level at which the event is accomplished. The following event levels are used:
  - Code 1000 Description Core Skills
    2000 Core Plus Skills
- (2) As the Task Analyst/Advocate has deemed appropriate the second digit of this field represents a sub-function to that duty area identified in field two. The following sub-functions are used in this chapter:
  - Description Code XX0XXAdministrative X1XX Miscellaneous maintenance functions X2XX Preventive Maintenance Checks and Services X3XX Diagnosing equipment malfunctions X4XX Repairing equipment X5XX Planning Equipment set up X6XX X7XX Equipment operation

- X8XX Equipment recovery
- X9XX Electrician/Plumber (tradesman) duty based on requirements in the National Electrical Code (NEC) or Uniform Plumbing Code (UPC), etc.
- (3) The last two digits of this field are used to identify and categorize like events or equipment across all MOSs of the 1100 OccFld (see Chapters 7 through 12), or are just numerical sequencing of events. Following are **some** examples of the categories used:
  - Code Description
  - X002 Core and Core Plus Skills related to controlling hazardous energy. See: 1120-ADMN-2002, 1141-ADMN-1002, 1142-ADMN-1002, 1161-ADMN-1002, 1169-ADMN-2002, 1171-ADMN-1002.
  - X012 Core and Core Plus Skills related to NAVMC 10772 initiation, validation and submission. See: 1120-ADMN-2012, 1141-ADMN-1012, 1142-ADMN-1012, 1161-ADMN-1012, 1169-ADMN-2012, 1171-ADMN-1012.
  - 2023 Core Plus advanced level MOS training program functions. See: 1120-ADMN-2023, 1141-ADMN-2023, 1142-ADMN-2023, 1161-ADMN-2023, 1169-ADMN-2023 and 1171-ADMN-2023.
  - 206X Core Plus advanced level supply support functions. See: 1120-ADMN-2061, 1120-ADMN-2062, 1120-ADMN-2063, 1120-ADMN-2064, 1120-ADMN-2065, 1141-ADMN-2061, 1141-ADMN-2062, 1142-ADMN-2061, 1142-ADMN-2062, 1161-ADMN-2061, 1169-ADMN-2061, 1169-ADMN-2062, 1169-ADMN-2063, 1169-ADMN-2064, 1169-ADMN-2065, 1171-ADMN-2061, 1171-ADMN-2062.
  - XX18 Core and Core Plus Skills related to maintaining and Operating the Integrated Tent, ECU and Generator (ITEG). See: 1141-XENG-1618, 1141-MANT-2218, 1141-XENG-2718, 1142-MANT-2318, 1161-MANT-1318, 1161-MANT-2618.

NOTE: There are three MOSs involved with this equipment.

XX42 Core and Core Plus Skills related to load testing generator
 Sets and maintaining and operating load testing equipment.
 See:
 1141-MANT-1142, 1142-MANT-1142, 1142-MANT-1242,

1141-MANT-1142, 1142-MANT-1142, 1142-MANT-12 1142-MANT-1342, 1142-MANT-2442.

NOTE: Of the 96 non-"ADMN" events performed by MOSs 1141 and 1142 only five "MANT" events could be called common to both MOSs. These are 114X-MANT-1101, 114X-MANT-1142, 114X-XXXX-1X95, 114X-MANT-2191 and 114X-MANT-2199. This leaves 56 unique events for MOS 1141 and 40 unique events for MOS 1142. There are 22 "ADMN" events that are common to both MOSs, but they are also common to all other basic MOSs in the OccFld.

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### 8003. 1000-LEVEL EVENTS

1141-ADMN-1001: Conduct an Operational Risk Assessment (ORA)

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With a task/mission, a Risk Management Worksheet, and references.

**STANDARD:** So task/mission effectiveness is increased while loss of personnel and material is minimized through the use of risk management controls.

## PERFORMANCE STEPS:

- 1. Identify task/mission requirements.
- 2. Review references.
- 3. Identify hazards, recording them on Risk Management Worksheet.
- 4. Assess severity and probability of hazards to determine risk levels.
- 5. Develop risk control measures.
- 6. Make risk decisions and/or forward Risk Management Worksheet to supervisor for decision/approval.
- 7. Implement controls.

## RELATED EVENTS:

1142-ADMN-1001 1161-ADMN-1001 1171-ADMN-1001

# REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCO 3500.27\_ Operational Risk Management (ORM)

# SUPPORT REQUIREMENTS:

**MATERIAL:** Risk Management Worksheet.

1141-ADMN-1002: Control (Lockout/Tagout) hazardous energy

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**BILLETS:** Electrician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment, equipment manuals, Lockout/Tagout devices, forms, and references.

**STANDARD:** So equipment is locked out or tagged out to protect against accidental or inadvertent start-up, or operation that may cause injury to personnel performing maintenance, service, repair, or modification to the equipment.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Locate all energy isolating devices and hazardous energy sources (NOTE: there may be more than one).
- 3. Obtain required number of Lockout/Tagout devices from program coordinator.
- 4. Notify all effected personnel and supervisors.
- 5. Don Personal Protective Equipment (PPE).
- 6. Shut down equipment/turn off circuit.
- 7. Dissipate or restrain any stored energy.
- 8. Apply Lockout/Tagout devices.
- 9. Verify energy is isolated/dissipated (test circuit).
- 10. Effect required service, maintenance, repairs or modifications to equipment/circuit.
- 11. Remove Lockout/Tagout devices.
- 12. Restore equipment/circuit to normal operation.
- 13. Return Lockout/Tagout devices to program coordinator.

PREREQUISITE EVENTS: 1141-ADMN-1001

### RELATED EVENTS:

1142-ADMN-1002 1161-ADMN-1002 1171-ADMN-1002

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. NAVMC DIR 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Program Manual
- 3. UNIT SOP Unit's Standing Operating Procedures

### SUPPORT REQUIREMENTS:

**EQUIPMENT:** Personal Protective Equipment (PPE)

## MATERIAL:

Lockout/Tagout devices

NAVMC 11403 (Lockout/Tagout Checklist)

UNITS/PERSONNEL: Lockout/Tagout Program Coordinator

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: NAVMC Dir 5100.8, Chapter 12, provides detailed information for this event.

1141-ADMN-1003: Recover an electric shock victim

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a situation and without references.

STANDARD: So danger to personnel is eliminated and victim is cared for.

#### PERFORMANCE STEPS:

- 1. Evaluate situation.
- 2. Send for help.
- 3. Provide for personal protection.
- 4. Isolate victim from electrical source.
- 5. Evaluate victim.
- 6. Start artificial resuscitation (if necessary).
- 7. Remain with victim until medical help arrives.
- 8. Report incident.

#### RELATED EVENTS:

1120-ADMN-2003 1142-ADMN-1003 1161-ADMN-1003 1169-ADMN-2003 1171-ADMN-1003

### REFERENCES:

- 1. MCRP 3-02G First Aid
- 2. MCRP 3-17.7K Theater of Operations Electrical Systems
- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 4. TM 2000-15/4 Power System Reference Manual
- 5. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

## MATERIAL:

Ropes

Brooms, mops or tree branches

1141-ADMN-1004: Respond to a hazardous materials spill

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**BILLETS:** Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a situation and without references.

STANDARD: So the spill is contained, reported, and cleaned up.

## PERFORMANCE STEPS:

- 1. Evacuate immediate area (if necessary).
- 2. Provide for personal protection.
- 3. Contain spill.
- 4. Report spill.
- 5. Remove uncontaminated material.
- 6. Dispose of hazardous material.

### RELATED EVENTS:

1120-ADMN-2004 1142-ADMN-1004 1161-ADMN-1004 1169-ADMN-2004 1171-ADMN-1004

# REFERENCES:

- 1. INSTALLATION SOP Installation's Standing Operating Procedures
- 2. MCO 4450.12\_ Storage and Handling of Hazardous Materials
- 3. MCO P5090.2\_ Environmental Compliance and Protection Manual
- 4. MCRP 4-11B Environmental Considerations

## SUPPORT REQUIREMENTS:

MATERIAL: Spill containment kit

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: MCO 4450.12A, Chapter 7 and MCRP 4-11B, Appendix J, Tab A provide detailed information for this event.

1141-ADMN-1005: Administer first aid for chemical ingestion/contact

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a situation and Material Safety Data Sheets (MSDS).

STANDARD: So effect of the chemical is mitigated and victim is cared for per the MSDS and MCRP 3-02G.

- 1. Protect yourself and other personnel.
- 2. Send for help.
- 3. Review Material Safety Data Sheet (MSDS).
- 4. Provide for personal protection (if required).
- 5. Give first aid.
- 6. Remain with victim until medical help arrives.
- 7. Report incident.

RELATED EVENTS:

1120-ADMN-2005 1142-ADMN-1005 1161-ADMN-1005

1169-ADMN-2005 1171-ADMN-1005

## REFERENCES:

1. MCRP 3-02G First Aid

### SUPPORT REQUIREMENTS:

MATERIAL: Material Safety Data Sheet (MSDS) file

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: MCRP 3-02G, Chapter 7 provides detailed information for this event.

1141-ADMN-1006: Obtain equipment publications

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With a tasking, equipment, and references.

**STANDARD:** So appropriate publication(s) are used with corresponding equipment.

## PERFORMANCE STEPS:

- 1. Determine/record equipment National Stock Number (NSN).
- 2. Determine/record equipment Model Number.
- 3. Determine/record equipment Identification Number.
- 4. Ascertain section's authorized echelon of maintenance.
- 5. Identify publications that are published/available for equipment.
- 6. Check required publications out of section's Publication Library.

## RELATED EVENTS:

1142-ADMN-1006 1161-ADMN-1006 1171-ADMN-1006

## **REFERENCES:**

- 1. MCO P4790.2\_ MIMMS Field Procedures Manual
- 2. MCO P5215.17\_ The Marine Corps Technical Publications System
- 3. SL-1-2/SL-1-3 Index of Publications Stocked by the USMC
- 4. UNIT SOP Unit's Standing Operating Procedures

## SUPPORT REQUIREMENTS:

 $\underline{\text{OTHER SUPPORT REQUIREMENTS}}$ : Internet access, with a CAC card, may be required to complete this event at some units.

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Additional information to assist or increase personal knowledge for this event is contained in MCI 0416B - The Marine Corps Publications and Directives System.

1141-ADMN-1007: Conduct an SL-3 Components List/Basic Issue Items (BII) inventory

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment and references.

 $\underline{\text{STANDARD}}$ : So accountability of all components is validated per the SL-3/BII list and TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Obtain Components List (SL-3 or TM listing Basic Issue Items [BII]) for item
- 3. Identify each component using the SL-3/BII.
- 4. Identify missing components.
- 5. Identify unserviceable components.
- 6. Document inventory results.
- 7. Report any inventory discrepancies and unserviceable components.

**PREREQUISITE EVENTS:** 1141-ADMN-1006

# RELATED EVENTS:

1142-ADMN-1007 1161-ADMN-1007 1171-ADMN-1007

## REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 3. SI 10510-OR/1 Tool Warranty/Replacement Instructions for Using the USMC ServMart
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. UNIT SOP Unit's Standing Operating Procedures

### SUPPORT REQUIREMENTS:

MATERIAL: SL-3/BII inventory sheets.

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: TM 4700-15/1H, Chapter 2, Section 6 provides detailed information for this event.

1141-ADMN-1008: Conduct an LTI

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: LTI is Limited Technical Inspection.

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment requiring inspection and the equipment's records, forms, tools, and references.

**STANDARD:** So equipment is inspected for serviceability and discrepancies are identified.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Lockout/Tagout equipment (if required).
- 3. Provide for personal protection (if required).
- 4. Identify components.
- 5. Verify component function/serviceability.
- 6. Verify authorized modifications.
- 7. Record discrepancies (if any).
- 8. Attach NAVMC 1018 to equipment (if required).
- 9. Complete the NAVMC 10560.

## PREREQUISITE EVENTS:

1141-ADMN-1002 1141-ADMN-1006 1141-ADMN-1007

# RELATED EVENTS:

1142-ADMN-1008 1161-ADMN-1008 1171-ADMN-1008

# REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCO P4790.2\_ MIMMS Field Procedures Manual
- 3. MCRP 4-11.4A Recovery and Battle Damage Assessment and Repair
- 4. TM 4700-15/1 Ground Equipment Record Procedures
- 5. TM 9-6115-624-BD Battlefield Damage Assessment and Repair for Generators
- 6. UNIT SOP Unit's Standing Operating Procedures

## SUPPORT REQUIREMENTS:

**EQUIPMENT:** Personal Protective Equipment (PPE).

#### MATERIAL:

NAVMC 1018 (Inspection/Repair Tag)

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection of Engineer Equipment [LTI])

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: TM 4700-15/1H, Chapter 2, Section 9 provides information for completing the NAVMC 1018 and TM 4700-15/1H, Chapter 2, Section 22 provides information for completing the NAVMC 10560.

1141-ADMN-1009: Document equipment operation history

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, equipment's records, forms, and references.

**STANDARD:** So hours/days of operation for the equipment are indicated and preventive maintenance intervals can be scheduled/rescheduled.

### PERFORMANCE STEPS:

1. Review references.

- 2. Validate equipment descriptive data on NAVMC 696D.
- 3. Ensure equipment descriptive data on NAVMC 10524 is correct.
- 4. Record hours/days equipment was operated (on NAVMC 10524 and in GCSS-MC).

### RELATED EVENTS:

1142-ADMN-1009 1161-ADMN-1009 1171-ADMN-1009

## REFERENCES:

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. MCO P4790.2\_ MIMMS Field Procedures Manual
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

## MATERIAL:

NAVMC 696D (Motor Vehicle and Engineer Equipment Record Folder)
NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: TM 4700-15/1H, Chapter 2, Section 14 provides information for completing the NAVMC 696D and TM 4700-15/1H, Chapter 2, Section 21 provides information for completing the NAVMC 10524.

<u>1141-ADMN-1010</u>: Requisition repair parts

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With access to GCSS-MC and/or forms, a list of required parts/components, required unit unique data, equipment technical manuals, and references.

STANDARD: So valid requisitions are created.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review equipment technical manuals and/or stock lists.
- 3. Retrieve and review assigned GCSS-MC Service Request (SR) task, validating equipment identification data.
- 4. Debrief GCSS-MC SR task by entering repair part(s)/component(s) requirement information.
- 5. Change GCSS-MC SR status to "waiting approval."
- 6. Follow up/reconcile requisitions (as needed/required).

PREREQUISITE EVENTS: 1141-ADMN-1006

### RELATED EVENTS:

1141-ADMN-1011 1142-ADMN-1010 1161-ADMN-1010 1171-ADMN-1010

## **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. MCO P4790.2\_ MIMMS Field Procedures Manual
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. UNIT SOP Unit's Standing Operating Procedures

# **SUPPORT REQUIREMENTS:**

 $\underline{\text{OTHER SUPPORT REQUIREMENTS}}\colon$  Internet access, with a CAC card, may be required in order to complete this event.

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: TM 4700-15/1H, Chapter 2, Section 3 provides information that will assist in entering repair part/component requirements into GCSS-MC.

1141-ADMN-1011: Document equipment service/repair history

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

# INITIAL TRAINING SETTING: FORMAL

CONDITION: With access to GCSS-MC and/or forms and references.

STANDARD: So service/repair actions for equipment are debriefed.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Retrieve and review assigned GCSS-MC Service Request (SR).
- 3. Debrief GCSS-MC SR task by updating information with service/repair actions taken.
- 4. Change GCSS-MC SR status to "waiting approval."

#### RELATED EVENTS:

| 1141-ADMN-1006 | 1141-ADMN-1008 | 1141-ADMN-1009 |
|----------------|----------------|----------------|
| 1141-ADMN-1010 | 1142-ADMN-1011 | 1161-ADMN-1011 |
| 1171-ADMN-1011 |                |                |

### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

OTHER SUPPORT REQUIREMENTS: Internet access, with a CAC card, may be required in order to complete this event.

**1141-ADMN-1012:** Initiate a NAVMC 10772

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

<u>DESCRIPTION</u>: NAVMC 10772 is Recommended Change to Technical Publications/Logistics-Maintenance Data Coding.

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With an identified error/deficiency to a technical publication and references.

**STANDARD:** So corrections/improvements to the publication will be affected per TM 4700-15/1H and MCO P5215.17C.

- 1. Review references.
- 2. Determine if error/deficiency requires use of Part I or Part II of NAVMC 10772.
- 3. Fill in all required blocks of NAVMC 10772.

4. Forward completed NAVMC 10772.

PREREQUISITE EVENTS: 1141-ADMN-1006

RELATED EVENTS:

1142-ADMN-1012 1161-ADMN-1012 1171-ADMN-1012

### REFERENCES:

1. Appropriate Technical Manuals

- 2. MCO P5215.17\_ The Marine Corps Technical Publications System
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures
- 4. UNIT SOP Unit's Standing Operating Procedures

## SUPPORT REQUIREMENTS:

MATERIAL: NAVMC 10772 (Recommended Change to Technical Publications/Logistics-Maintenance Data Coding)

OTHER SUPPORT REQUIREMENTS: Internet access, with a CAC card, may be required in order to complete this event per Unit's SOP. The website: https://portal.logcom.usmc.mil/sites/pubs/Site%20Pages/NAVMC10772RFC.aspx.

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS:</u> TM 4700-15/1H, Chapter 2, Section 23 provides detailed information for this event.

1141-MANT-1101: Operate a multimeter

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment having an electrical circuit(s).

STANDARD: So electrical outputs of the circuit are measured.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Determine correct setting (AC, DC, resistance or current).
- 3. Test circuit (voltage, resistance, current).
- 4. Record measurements/readings.
- 5. Analyze measurements/readings.

# PREREQUISITE EVENTS:

1141-ADMN-1001 1141-ADMN-1002 1141-ADMN-1006

# RELATED EVENTS:

1142-MANT-1101 1161-MANT-1101 1171-MANT-2101

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. IM 8024B Manufacturer's Instruction Manual for Fluke Model 8024B Digital Multimeter
- 3. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 4. SL-3-09869A Components List for Multimeter, Model 77-4BN
- 5. TC 9-60 Communications-Electronics Fundamentals, Basic Principles of Alternating Current and Direct Current
- 6. TM 2000-15/4 Power System Reference Manual

### SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Multimeter [H7030]

Anti-Static Wrist Strap (if required)

Equipment with an electrical circuit

1141-MANT-1142: Load test generator set(s)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment, tools, forms, and references.

**STANDARD:** So ability of generator set(s) to safely take a designated electrical load is determined.

- 1. Identify ELECTROCUTION HAZARD(S).
- Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review references, including generator technical manuals.
- 5. Don Personal Protective Equipment (PPE).
- 6. Ground equipment.
- 7. Connect load bank to generator(s) (using overcurrent protection).
- 8. Start generator(s), contacting load.
- 9. Perform before operation checks on load bank.
- 10. Apply load to generator(s).
- 11. Perform during operation checks on load bank.
- 12. Record readings from load bank.
- 13. Analyze data collected during test.
- 14. Disconnect load from generator(s).
- 15. Perform after operation checks on load bank.
- 16. Shut down load bank.
- 17. Shut down generator(s).
- 18. Disconnect load bank.
- 19. Record test results.

## PREREQUISITE EVENTS:

1141-ADMN-1001 1141-ADMN-1006

### RELATED EVENTS:

1141-ADMN-1008 1141-ADMN-1009 1141-ADMN-1011

1142-MANT-1142

#### **REFERENCES:**

1. Appropriate Technical Manuals

- 2. TM 07500C-OI Operation/Maintenance Manual with Repair Parts List for Load Bank, Electrical, 100kW, Model LSH100D42423
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures
- 4. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

## SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Tool Kit, Lineman's Electrician (TK-1141) [B0062]
100kW Electrical Load Bank [B0579]
Generator(s) to be load tested

### MATERIAL:

NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record) Fuel

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Graduates of the Basic Electrician Course (CID: M0311B2) are licensed operators of the 100kW Electrical Load Bank [B0579].

SPECIAL PERSONNEL CERTS: Only Electricians (MOS 1141) and Engineer Equipment Electrical Systems Technicians (MOS 1142) will be licensed to operate a 100kW Electrical Load Bank [B0579].

1141-MANT-1224: Perform scheduled PMCS on MEPDIS-R

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

## **DESCRIPTION:**

PMCS is Preventive Maintenance Checks and Services. MEPDIS-R is Power Distribution Panel, Mobile Electric Power Distribution System Replacement.

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, personnel, tools, forms, and references.

**STANDARD:** So equipment is checked and serviced per TM 6110-0I/1 and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review equipment technical manuals.
- 3. Review Service Request (SR).
- 4. Don Personal Protective Equipment (PPE).
- 5. Connect generator.
- 6. Contain (Lockout/Tagout) hazardous energy.
- 7. Start generator.
- 8. Inspect equipment.
- 9. Shut down generator.
- 10. Service equipment.
- 11. Document maintenance performed and deficiencies/discrepancies noted.

### PREREQUISITE EVENTS:

1141-ADMN-1001 1141-ADMN-1002 1141-ADMN-1006

1141-ADMN-1011

# RELATED EVENTS:

1141-ADMN-1007 1141-ADMN-1008

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. SL-3-6110 Components List for Mobile Electric Power Distribution System Replacement (MEPDIS-R)
- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. TM 6110-OI/1 Operation/Maintenance Manual with Repair Parts List for Mobile Electric Power Distribution System Replacement (MEPDIS-R)

## SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Power Distribution Panel, Mobile Electric Power Distribution System

Replacement (MEPDIS-R):

5kW Indoor [B0027]

5kW Outdoor [B0028]

15kW [B0029]

30kW [B0030]

100kW [B0031] - and/or -

300kW [B0032]

Generator

#### матрртат. •

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

Fuel

UNITS/PERSONNEL: Additional personnel (any MOS) will be required to safely

move equipment components, if movement (unpacking/packing) of equipment is necessary for this event.

1141-MANT-1247: Perform scheduled PMCS on a Floodlight Set

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: PMCS is Preventive Maintenance Checks and Services.

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With equipment, tools, parts for scheduled services, forms, and references.

**STANDARD:** So equipment is checked and serviced per TM 11120A-OI and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

#### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review equipment technical manuals.
- 5. Review Service Request (SR).
- 6. Don Personal Protective Equipment (PPE).
- 7. Contain (Lockout/Tagout) hazardous energy.
- 8. Inspect equipment.
- 9. Service equipment.
- 10. Document maintenance performed and deficiencies/discrepancies noted.

## PREREQUISITE EVENTS:

1141-ADMN-1001 1141-ADMN-1002 1141-ADMN-1006

1141-ADMN-1011

# RELATED EVENTS:

1141-ADMN-1007 1141-ADMN-1008

## **REFERENCES:**

- 1. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 2. TM 11120A-OI Operation/Maintenance Manual with Repair Parts List for Floodlight Set (Model MLT5060MIT)
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)
Tool Kit, Lineman's Electrician (TK-1141) [B0062]
MLT5060MIT Floodlight Set [B0640]

### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])
Parts for scheduled services
Fuel

1141-MANT-1251: Perform scheduled PMCS on a MEP Tactical Generator Set

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: PMCS is Preventive Maintenance Checks and Services. MEP is Mobile Electric Power.

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment, tools, parts for scheduled services, forms, and references.

STANDARD: So equipment is checked and serviced per generator's technical manual(s) and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

#### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review equipment technical manuals.
- 5. Review Service Request (SR).
- 6. Don Personal Protective Equipment (PPE).
- 7. Contain (Lockout/Tagout) hazardous energy.
- 8. Inspect equipment.
- 9. Service equipment.
- 10. Document maintenance performed and deficiencies/discrepancies noted.

### PREREQUISITE EVENTS:

1141-ADMN-1001 1141-ADMN-1002 1141-ADMN-1006 1141-ADMN-1011

## RELATED EVENTS:

1141-ADMN-1007 1141-ADMN-1008

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. CG MarCorSysCom msg R011721Z May 07 Maintenance Advisory Message (MAM): Pulse Solar Charger (PSC) Installation on USMC Tactical Generator Fleet
- 3. DP 6115 Disposal Plan for the Military Standard Generator Sets
- 4. DP 6115/1 Disposal Plan for the Alpha Model Tactical Quiet Generator Sets
- 5. FP 07464C Fielding Plan for B1045 MEP-807A 100kW Tactical Quiet Generator (TQG)  $\,$

- FP 6115 Fielding Plan for the Advanced Medium Mobile Power Sources (AMMPS)
   LO 9-6115-641-12 Lubrication Order for Generator Set, Skid Mounted,
   Tactical Quiet, 5kW, 60Hz, MEP-802A
- 8. LO 9-6115-642-12 Lubrication Order for Generator Set, Skid Mounted, Tactical Quiet, 10kW, 60Hz MEP-803A and 400Hz MEP-813A
- 9. LO 9-6115-671-12 Lubrication Order for Generator Set, Skid Mounted, Tactical Quiet, 30kW, 50/60Hz MEP-805B and 400Hz MEP-815B
- 10. LO 9-6115-672-12 Lubrication Order for Generator Set, Skid Mounted, Tactical Quiet, 60kW, 50/60Hz MEP-806B and 400Hz MEP-816B
- 11. MI 07464C-OI Installation of Pulse Solar Charger on Tactical Quiet Generators, 100 Kilowatt, 60 Hertz (MEP-807A)
- 12. MI 09018A-34/1 Replacement of Diesel Engine Power Generating Unit with Generator Set, Diesel Engine, MEP-803A, in the Shop Equipment, General Purpose Repair, Semi Trailer Mounted (SGPRSMD)
- 13. MI 09247A/09248A-OR/1 Installation of Pulse Solar Charger (PSC) on Tactical Quiet Generators (TQG), 10 Kilowatt 60 Hertz (MEP-803A) and 10 Kilowatt 400 Hertz (MEP-813A)
- 14. MI 10155A-OR/1 Installation of Pulse Solar Charger (PSC) on Tactical Quiet Generators (TQG), 3 Kilowatt 60 Hertz (MEP-831A)
- 15. MI 11125A-OI/2 Relocation of Ether Bottle for the Generator Set, 20kW MMG-25
- 16. MI 11125A-OI/3 Drilling of the Oil Drain Access Hole for the Generator Set, 20kW MMG-25
- 17. MI 11125A-OR Installation of Pulse Solar Charger (PSC) on Generator Set,  $20\,\mathrm{kW}$  MMG25
- 18. MI 6115-24/24D Trailer Mounting of 10kW, MEP-003A, MEP-112A, MEP-803A, MEP-813A Generators on M116A2/3 Series Trailer
- 19. MI 6115-34/30 Battery Charging Fuse Modification and Control Power Circuit to Tactical Quiet Generator Models MEP-805B, MEP-815B, MEP-806B, MEP-816B
- 20. MI 6115-OI/25C Trailer Mounting of 3kW, MEP-831A Generators on M116A2/3 Series Trailer
- 21. MI 6115-OR/26A Trailer Mounting of Tactical Quiet Generators (TQG), 60 Kilowatt 60 Hertz (MEP-806A/B) or 60 Kilowatt 400 Hertz (MEP-816A/B) on M353 Trailer
- 22. MI 6115-OR/27A Trailer Mounting of Tactical Quiet Generators (TQG), 30 Kilowatt 60 Hertz (MEP-805A/B) or 30 Kilowatt 400 Hertz (MEP-815A/B) on M353 Trailer
- 23. MI 6115-OR/31 Installation of Pulse Solar Charger (PSC) on Tactical Quiet Generators (TQG), 30 Kilowatt 60 Hertz (MEP-805A/B) and 30 Kilowatt 400 Hertz (MEP-815A/B)
- $24.\ \text{MI}\ 6115-\text{OR}/32$  Installation of Pulse Solar Charger (PSC) on Tactical Quiet Generators (TQG), 60 Kilowatt 60 Hertz (MEP-806A/B) and 60 Kilowatt 400 Hertz (MEP-816A/B)
- 25. SI 07464C-OI/1 Warranty Procedures for MEP-807A 100kW Tactical Quiet Generator
- 26. SI 09247A/09248A-24 Warranty Program for Generator Set, Tactical Quiet, 10kW, 60 and 400Hz, MEP-803A and MEP-813A
- 27. SI 11101A-OI/1 Warranty Procedures for MEP-531A 2kW Military Tactical Generator
- 28. SI 11125A-OI/1 Warranty Procedures for Generator Set, 20kW MMG-25
- 29. SI 6115-12/4 Warranty Procedures for Tactical Quiet Generator Series
- 30. SI 6115-OI Warranty Procedures for Advanced Medium Mobile Power Sources
- 31. SL-3-05926B/10155A Components List for Generator Set, Diesel Engine Driven, Skid Mounted, 3kW, 60Hz, MEP-016B/MEP-831A

- 32. SL-3-6115 Components List for Generator Set, Diesel Engine Driven, Skid Mounted
- 33. TB 11-6115-741-24 Field and Sustainment Maintenance for Tactical Generator Desert Operations Special Test, Inspection, and Repair Requirements
- 34. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- $35.\ TI\ 11125A-OI$  Engine Replacement Technical Instruction for Mobile Generator Set, MMG25
- $36.\ \mathrm{TI}\ 6115\text{-OR}\ \mathrm{Product}\ \mathrm{Improvement}\ \mathrm{of}\ \mathrm{the}\ \mathrm{Pulse}\ \mathrm{Receptacle}\ \mathrm{Unit}\ \mathrm{Component}\ \mathrm{of}\ \mathrm{the}\ \mathrm{Pulse}\ \mathrm{Solar}\ \mathrm{Charger}\ \mathrm{Kit}$
- 37. TM 07464C-10/1 Operator's Manual for Generator Set, Skid Mounted, Tactical Quiet, 100 kW, 50/60 Hz, MEP-807A
- 38. TM 07464C-24/2A Field and Sustainment Maintenance Manual for Generator Set, Skid Mounted, Tactical Quiet, 100kW, 50/60Hz, MEP-807A
- 39. TM 07464C-24P/3 Field and Sustainment Maintenance Manual Including Repair Parts and Special Tools List for Generator Set, Skid Mounted, Tactical Quiet, 100kW, 50/60Hz, MEP-807A
- $40.\ \mathrm{TM}\ \mathrm{O7464C}\text{-}35$  Systems Operation Testing and Adjusting for Caterpillar Generator Sets
- 41. TM 09244B/09245B-14/1 Operator, Unit, Direct Support and General Support Maintenance Manual for Generator Set, Skid Mounted, Tactical Quiet, 60kW, 50/60 and 400 Hz, MEP-806B and MEP-816B
- $42.\ \text{TM}\ 09244\text{B}/09245\text{B-IN}$  Field and Sustainment Maintenance Repair Parts and Special Tools List for Generator Set, Skid Mounted, Tactical Quiet, 60kW, 50/60 and  $400\ \text{Hz}$ , MEP-806B and MEP-816B
- 43. TM 09244C/09245C-OI Operator's Manual for Generator Set, Skid Mounted 60kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1070 50/60Hz and MEP-1071 400Hz
- 44. TM 09244C/09245C-OI/1 Field and Sustainment Maintenance Manual Including Repair Parts and Special Tools List for Generator Set, Skid Mounted 60kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1070 50/60Hz and MEP-1071 400Hz
- 45. TM 09245B/2815-24/3 Unit, Direct Support and General Support Maintenance Manual for Diesel Engine, Model 6068TF151, 6 Cylinder, 6.8 Liter, [MEP-806B/MEP-816B]
- 46. TM 09245B/2815-24P/4 Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for Diesel Engine, Model 6068TF151, 6 Cylinder, 6.8 Liter, [MEP-806B/MEP-816B]
- $47.\ \text{TM}\ 09246\text{C}/11776\text{A}-\text{OI}\ \text{Operator's Manual for Generator Set, Skid Mounted 30kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1060 50/60Hz and MEP-1061 <math display="inline">400\text{Hz}$
- 48. TM 09246C/11776A-OI/1 Field and Sustainment Maintenance Manual Including Repair Parts and Special Tools List for Generator Set, Skid Mounted 30kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1060 50/60Hz and MEP-1061 400Hz
- 49. TM 09247A/09248A-10/1 Operator's Manual for Generator Set, Skid Mounted, Tactical Quiet, 10kW, MEP-803A/MEP-813A
- 50. TM 09247A/09248A-24/2 Unit, Direct Support and General Support Maintenance Manual for Generator Set, Skid Mounted, Tactical Quiet, 10kW, MEP-803A/MEP-813A
- 51. TM 09247A/09248A-24P/3 Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for Generator Set, Tactical Quiet, 10kW, 60/400Hz, MEP-803A/MEP-813
- 52. TM 09249B/09246B-14/1 Operator, Unit, Direct Support and General Support

- Maintenance Manual for Generator Set, Skid Mounted, Tactical Quiet, 30kW, 50/60 and 400Hz, MEP-805B/MEP-815B
- 53. TM 09249B/09246B-24P/2 Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for Generator Set, Skid Mounted, Tactical Quiet, 30kW, 50/60 and 400 Hz, MEP-805B and MEP-815B 54. TM 09249B/2815-24/3 Unit, Direct Support and General Support Maintenance Manual for Diesel Engine, Model 4045TF151, 4 Cylinder, 4.5 Liter [MEP-805B/MEP-815B]
- 55. TM 09249B/2815-24P/4 Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for Diesel Engine, Model 4045TF151, 4 Cylinder, 4.5 Liter [MEP-805B/MEP-815B]
- 56. TM 09292B-OI/1 Field and Sustainment Maintenance Manual Including Repair Parts and Special Tools List for Generator Set, Skid Mounted 5kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1030 50/60Hz and MEP-1031 400Hz 57. TM 09292B-OI/3 Operator's Manual for Generator Set, Skid Mounted 5kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1030 50/60Hz and MEP-1031 400Hz
- 58. TM 10155A/2815-24/3 Unit, Direct Support, and General Support Maintenance Manual for Diesel Engine Assembly, Model L70AE-DEGFR
- 59. TM 10155A/2815-24P/4 Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for Diesel Engine, Model L70AE-DEGFR 60. TM 10155A-OI/1A Operator and Field Maintenance Manual (Including Repair Parts and Special Tools List) for 3kW Tactical Quiet Generator Set MEP-831A (60Hz) and MEP-832A (400Hz)
- 61. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 62. TM 11125A-OI/A Operation/Maintenance Manual with Repair Parts List for Generator Set, Diesel Engine (Model MMG25)
- 63. TM 11598A-OI/A Field and Sustainment Maintenance Manual for Generator Set, Skid Mounted, Tactical Quiet 200kW 50/60Hz MEP-809A
- $64.\ \mbox{TM}$  11598A-OR Operator's Manual for Generator Set, Skid Mounted, Tactical Quiet, 200kW,  $50/60\mbox{Hz},\ \mbox{MEP-809A}$
- $65.\ \text{TM}\ 11773\text{A-OI}$  Operator's Manual for Generator Set, Skid Mounted 15kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1050 50/60Hz and MEP-1051 400Hz
- 66. TM 11773A-OI/1 Field and Sustainment Maintenance Manual Including Repair Parts and Special Tools List for Generator Set, Skid Mounted 15kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1050 50/60Hz and MEP-1051 400Hz 67. TM 11783A/11784A-OI Operator's Manual for Generator Set, Skid Mounted 10kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1040 50/60Hz and MEP-1041 400Hz
- $68.\ \text{TM}\ 11783\text{A}/11784\text{A}-\text{OI}/2$  Field and Sustainment Maintenance Manual Including Repair Parts and Special Tools List for Generator Set, Skid Mounted 10kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1040 50/60Hz and MEP-1041 400Hz
- 69. TM 2815-24/3 Unit, Direct Support and General Support Maintenance Instructions for Diesel Engine, Model DN4M, 4 Cylinder, 1.2 Liter 70. TM 2815-24P/1 Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for Diesel Engine, Model DN4M-1, Four-Cylinder, Four Cycle, Fuel Injected
- 71. TM 4700-15/1\_ Ground Equipment Record Procedures
- 72. TM 9-6115-641-10 Operator's Manual for Generator Set, Skid Mounted, Tactical Quiet, 5kW, 60 and 400Hz, MEP-802A and MEP-812A
- 73. TM 9-6115-641-24 Field and Sustainment Maintenance Manual for Generator Set, Skid Mounted, Tactical Quiet, 5kW, 60 and 400Hz, MEP-802A and MEP-812A

- 74. TM 9-6115-641-24P Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for Generator Set, Tactical Quiet, 5kW, 60/400Hz, MEP-802A and MEP-812A
- 75. TM 9-6115-673-13&P Operator and Field Maintenance Manual (Including Repair Parts and Special Tools List) for 2kW Military Tactical Generator Sets, 120VAC, 60Hz, MEP-531A
- 76. TM 9-6115-730-24P Field and Sustainment Level Repair Parts and Special Tools List for Generator Set, Skid Mounted, Tactical Quiet, 200kW, 50/60Hz, MEP-809A
- 77. ULSS 004295-15B User's Logistics Support Summary for Marine Corps Family of Tactical Quiet Generators (TQGs)

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Tool Kit, Lineman's Electrician (TK-1141) [B0062]
Tactical Generator Set

### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])
Parts for scheduled services
Fuel

1141-MANT-1324: Diagnose a MEPDIS-R malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: MEPDIS-R is Power Distribution Panel, Mobile Electric Power Distribution System Replacement.

BILLETS: Electrician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective action(s) initiated.

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review LTI.
- 3. Review equipment technical manuals.
- 4. Don Personal Protective Equipment (PPE).
- 5. Ensure equipment is grounded.
- 6. Ensure any hazardous energy is controlled (Lockout/Tagout).
- 7. Check switches for correct settings.
- 8. Isolate faulty component(s).

- 9. Determine if component fault was caused by a defect elsewhere.
- 10. Determine echelon(s) of maintenance.
- 11. Document findings (complete LTI/update Service Request).
- 12. Order parts (if required).

## PREREQUISITE EVENTS:

1141-ADMN-1001 1141-ADMN-1002 1141-ADMN-1006

#### RELATED EVENTS:

1141-ADMN-1010 1141-ADMN-1011 1141-ADMN-1011

1141-MANT-1224

#### REFERENCES:

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. SI 6110-OI/1 Warranty Procedures for Mobile Electric Power Distribution System Replacement
- 4. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 5. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures
- 7. TM 6110-0I/1 Operation/Maintenance Manual with Repair Parts List for Mobile Electric Power Distribution System Replacement (MEPDIS-R)

### SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Faulty Power Distribution Panel, Mobile Electric Power Distribution System Replacement (MEPDIS-R):

5kW Indoor [B0027]

5kW Outdoor [B0028]

15kw [B0029]

30kW [B0030]

100kW [B0031] - and/or -

300kW [B0032]

MATERIAL: NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

1141-MANT-1424: Repair MEPDIS-R

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**DESCRIPTION:** MEPDIS-R is Power Distribution Panel, Mobile Electric Power Distribution System Replacement.

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, tools, forms, and references.

**STANDARD:** So equipment functions/operates as specified in TM 6110-0I/1 and repairs are documented per TM 4700-15/1H.

## PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review Service Request (SR).
- 3. Inventory parts from layette.
- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE).
- 6. Ensure equipment is grounded (or bonded to power source).
- 7. Ensure hazardous energy is controlled (Lockout/Tagout).
- 8. Remove faulty part(s).
- 9. Prepare area(s) for new part(s).
- 10. Attach new part(s), making necessary adjustments.
- 11. Test repairs.
- 12. Document repairs.

## PREREQUISITE EVENTS:

1141-ADMN-1001 1141-ADMN-1002 1141-ADMN-1006 1141-ADMN-1008 1141-ADMN-1011 1141-MANT-1324

**RELATED EVENTS:** 1141-MANT-1224

#### REFERENCES:

- 1. FP 11183A Fielding Plan for Mobile Electric Power Distribution System Replacement (MEPDIS-R)
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. SI 6110-OI/1 Warranty Procedures for Mobile Electric Power Distribution System Replacement
- 5. SL-3-6110 Components List for Mobile Electric Power Distribution System Replacement (MEPDIS-R)
- 6. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 7. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 8. TM 4700-15/1 Ground Equipment Record Procedures
- 9. TM 6110-0I/1 Operation/Maintenance Manual with Repair Parts List for Mobile Electric Power Distribution System Replacement (MEPDIS-R)

## SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Degraded/deadlined Power Distribution Panel, Mobile Electric Power Distribution System Replacement (MEPDIS-R):

5kW Indoor [B0027]

5kW Outdoor [B0028]

15kW [B0029]

30kW [B0030]

100kW [B0031] - and/or - 300kW [B0032]

### MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

1141-XENG-1601: Establish a grounding system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With electrical support plan and established Course of Action (COA), equipment, personnel, material, and references.

**STANDARD:** So unit's mission is supported per the commander's intent and equipment and/or electrical system is grounded in accordance with MCRP 3-17.7K, National Electric Code (NEC) (NFPA 70), TM 9406-15 and equipment technical manuals.

#### PERFORMANCE STEPS:

- 1. Review electrical support plan and Course of Action (COA).
- 2. Review references.
- 3. Reassess operational risk.
- 4. Don Personal Protective Equipment (PPE).
- 5. Prepare site.
- 6. Install grounding system.
- 7. Measure resistance to ground.
- 8. Record findings.
- 9. Analyze findings.
- 10. Make corrections (repeating as necessary).
- 11. Post safety/warning signs.
- 12. Camouflage system.

# PREREQUISITE EVENTS:

1141-ADMN-1001 1141-XENG-1703

# RELATED EVENTS:

1141-ADMN-1002 1141-XENG-1618 1141-XENG-1624

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. FP 11390A Fielding Plan for Tool Kit, Intermediate Level Electrician's
- 3. FP 11509A Fielding Plan for Tool Kit, Lineman's Electrician
- 4. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 5. MCRP 3-17.7K Theater of Operations Electrical Systems
- 6. NEC (NFPA 70) National Electrical Code by National Fire Protection

#### Association

- 7. SL-3-10069A Components List for Ohmmeter (Earth Ground Resistance Tester), Model R1L-C
- 8. SL-3-10139A Components List for Grounding Kit, MK-2551A/U
- 9. SL-3-11390A Components List for Tool Kit, Intermediate Level Electricians (I-Level Tool Kit)(TK-1141/1)
- 10. SL-3-11509A Components List for Tool Kit, Lineman's Electrician (TK-1141)
- 11. TC 11-6 Grounding Techniques
- 12. TM 10069A-14 Operation and Maintenance Instructions with Illustrated Parts Breakdown for Ground Resistance Ohmmeter Model R1L-C
- 13. TM 11509A-OR Users Manual for Model i1000s AC Current Probe for Oscilloscopes
- 14. TM 11-5820-1118-13&P Operator and Field Maintenance Manual Including Repair Parts and Special Tools List for Grounding Kit, MK-2551A/U
- 15. TM 5-690 Grounding and Bonding in Command, Control, Communications,
- Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) Facilities
- 16. TM 5-811-1 Electric Power Supply and Distribution
- $17.\ \text{TM}\ 9406-15\_$  Grounding Procedures for Electromagnetic Interference Control and Safety

## SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Tool Kit, Lineman's Electrician (TK-1141) [B0062]
Ground Rod(s), GP-16 [H7213] - and/or Grounding Kit, MK-2551A/U [H7255]
Ohmmeter, Earth Ground Resistance Tester, Model R1L-C [A7059]
Earthmoving equipment (if required to prepare site)

#### MATERIAL:

Electrical support plan with established Course of Action (COA)
Warning signs
Water (if needed)
Metal Plates (if needed)
Chemicals (if needed)
Magnesium sulfate (Epsom salts)
Copper sulfate (blue vitriol)
Calcium chloride
Sodium chloride (common table salt) - or Potassium nitrate (saltpeter)

<u>UNITS/PERSONNEL</u>: MOS 1345 (Engineer Equipment Operator) may be needed to prepare site.

#### **MISCELLANEOUS:**

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for system development.

1141-XENG-1618: Establish a generator site

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With electrical support plan and established Course of Action (COA), equipment, personnel, material, and references.

<u>STANDARD</u>: So unit's mission is supported per the commander's intent and generators are set up in accordance with MCRP 3-17.7K and equipment technical manuals.

### PERFORMANCE STEPS:

- 1. Review electrical support plan and Course of Action (COA).
- 2. Review references.
- 3. Reassess operational risk.
- 4. Don Personal Protective Equipment (PPE).
- 5. Prepare site, making provisions for refueling.
- 6. Install spill containment.
- 7. Set up generator(s) and any accessories.
- 8. Ground generator(s).
- 9. Post safety/warning signs.
- 10. Camouflage site.
- 11. Provide for security.

PREREQUISITE EVENTS: 1141-ADMN-1001

#### RELATED EVENTS:

1141-ADMN-1002 1141-XENG-1601 1141-XENG-1624

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 3. MCRP 3-17.7K Theater of Operations Electrical Systems
- 4. MCRP 4-11B Environmental Considerations
- 5. SL-3-11509A Components List for Tool Kit, Lineman's Electrician (TK-1141)
- 6. TM 11509A-OR Users Manual for Model i1000s AC Current Probe for Oscilloscopes

### SUPPORT REQUIREMENTS:

#### **EOUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Forklift (with capacity to lift generator(s))

Earthmoving equipment (if required to prepare site)

Generator(s) (size and quantity designated by electrical support plan)

### MATERIAL:

Electrical support plan with established Course of Action (COA) Spill containment materials

Warning signs

<u>UNITS/PERSONNEL</u>: MOS 1345 (Engineer Equipment Operator) to prepare site and move generator(s)

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for site development.

1141-XENG-1624: Install a tactical power distribution system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Due to the hazards involved, to both personnel and equipment, MEPDIS-R should only be installed by licensed (MOS 1141) Electricians.

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With electrical support plan and established Course of Action (COA), equipment, personnel, material, and references.

**STANDARD:** So unit's mission is supported per the commander's intent and distribution system is set up in accordance with MCRP 3-17.7K and equipment technical manuals.

## PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review electrical support plan and Course of Action (COA).
- 3. Review references.
- 4. Reassess operational risk.
- 5. Don Personal Protective Equipment (PPE).
- 6. Prepare site(s) for distribution panel(s)/busbar(s).
- 7. Install distribution panel(s)/busbar(s).
- 8. Install distribution cables.
- 9. Ground distribution system.
- 10. Post safety/warning signs.
- 11. Test distribution system.
- 12. Camouflage distribution system.
- 13. Provide for security.

PREREQUISITE EVENTS: 1141-ADMN-1001

## RELATED EVENTS:

1141-ADMN-1002 1141-XENG-1601 1141-XENG-1618

# REFERENCES:

1. Appropriate Technical Manuals

- 2. FP 11390A Fielding Plan for Tool Kit, Intermediate Level Electrician's
- 3. FP 11418A Fielding Plan for the Climber's Set
- 4. FP 11509A Fielding Plan for Tool Kit, Lineman's Electrician
- 5. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 6. MCRP 3-17.7K Theater of Operations Electrical Systems
- 7. MCRP 4-11B Environmental Considerations
- 8. SL-3-11390A Components List for Tool Kit, Intermediate Level Electricians (I-Level Tool Kit) (TK-1141/1)
- 9. SL-3-11418A Components List for Climber's Set, Tree and Pole (TK-1141/C)
- 10. SL-3-11509A Components List for Tool Kit, Lineman's Electrician (TK-1141)
- 11. TM 11509A-OR Users Manual for Model i1000s AC Current Probe for Oscilloscopes
- 12. TM 6110-0I/1 Operation/Maintenance Manual with Repair Parts List for Mobile Electric Power Distribution System Replacement (MEPDIS-R)
- 13. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

```
Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Forklift (with capacity to lift distribution panels)

Earthmoving equipment (if required to prepare site(s))

Power Distribution Panel, Mobile Electric Power Distribution System

Replacement (MEPDIS-R):

5kW Indoor [B0027]

5kW Outdoor [B0028]

15kW [B0029]

30kW [B0030]

100kW [B0031] - and/or -

300kW [B0032]

(Sizes and quantities as designated by the electrical support plan.)
```

# MATERIAL:

Electrical support plan with established Course of Action (COA) Warning signs
Busbar (if required by electrical support plan)
Conductors

<u>UNITS/PERSONNEL</u>: MOS 1345 (Engineer Equipment Operator) to prepare site(s) and move distribution panels.

## MISCELLANEOUS:

#### ADMINISTRATIVE INSTRUCTIONS:

Graduates of the Basic Electrician Course (CID: M0311B2) are licensed to install and operate MEPDIS-R [B0027, B0028, B0029, B0030, B0031 and B0032]. They are also taught how to install (but not how to construct) a busbar. Only licensed Marines (MOS 1141) will install/operate MEPDIS-R. Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for system installation.

SPECIAL PERSONNEL CERTS: Personnel must be licensed MOS 1141 electricians

to install and operate MEPDIS-R [B0027, B0028, B0029, B0030, B0031 and B0032].

1141-XENG-1692: Connect an electric motor

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment containing an electric motor, electrical power source, tools, and references.

**STANDARD:** So electric motor will power equipment in accordance with equipment manual(s).

# PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review references.
- 3. Don Personal Protective Equipment (PPE).
- 4. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 5. Wire motor to equipment.
- 6. Ensure motor is grounded.
- 7. Test motor operation.

#### PREREQUISITE EVENTS:

1141-ADMN-1001 1141-ADMN-1002 1141-ADMN-1006 1141-MANT-1101

# RELATED EVENTS:

1141-XENG-1693 1142-MANT-1493

# REFERENCES:

- 1. Appropriate Technical Manuals
- 2. EMC Electric Motor Controls by American Technical Publishers, Inc.
- 3. MCRP 3-17.7K Theater of Operations Electrical Systems
- 4. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 5. TC 9-60 Communications-Electronics Fundamentals, Basic Principles of Alternating Current and Direct Current
- 6. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 7. TM 2000-15/4 Power System Reference Manual
- 8. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062] Equipment with an electric motor

# MATERIAL:

Wire

Connector(s)

OTHER SUPPORT REQUIREMENTS: Electrical power source

1141-XENG-1693: Connect electric motor control circuits

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment containing an electric motor, electrical power source, tools, parts, and references.

**STANDARD:** So positive control of electric motor is established in accordance with equipment manual(s).

# PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review references.
- 3. Don Personal Protective Equipment (PPE).
- 4. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 5. Identify motor control function.
- 6. Determine motor voltage requirement.
- 7. Wire motor control.
- 8. Inspect wiring.
- 9. Test motor operation.

# PREREQUISITE EVENTS:

1141-ADMN-1001 1141-ADMN-1002 1141-ADMN-1006

1141-MANT-1101

#### RELATED EVENTS:

1141-XENG-1692 1142-MANT-1493

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. EMC Electric Motor Controls by American Technical Publishers, Inc.
- 3. EMR Electric Motor Repair, Third Addition
- 4. MCRP 3-17.7K Theater of Operations Electrical Systems
- 5. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 6. TC 9-60 Communications-Electronics Fundamentals, Basic Principles of Alternating Current and Direct Current

- 7. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 8. TM 2000-15/4 Power System Reference Manual
- 9. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety  $\left(\frac{1}{2}\right)^{2}$

# SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Tool Kit, Lineman's Electrician (TK-1141) [B0062]
Equipment with an electric motor
Electric motor control

#### MATERIAL:

Parts Wire

Connector(s)

OTHER SUPPORT REQUIREMENTS: Electrical power source

1141-XENG-1703: Operate a ground resistance tester

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** At a grounding system, with established ground resistance parameters and references.

STANDARD: So resistance provided by grounding system is measured.

#### PERFORMANCE STEPS:

- 1. Review references and grounding parameters.
- 2. Perform pre-operation checks on tester.
- 3. Determine correct settings for the resistance tester.
- 4. Connect tester.
- 5. Test the ground.
- 6. Record findings.
- 7. Analyze findings.
- 8. Perform after operation checks on tester.

**RELATED EVENTS:** 1141-MANT-1101

# REFERENCES:

- 1. SL-3-10069A Components List for Ohmmeter (Earth Ground Resistance Tester), Model R1L-C
- 2. SL-3-10139A Components List for Grounding Kit, MK-2551A/U
- 3. SL-3-11509A Components List for Tool Kit, Lineman's Electrician (TK-1141)
- 4. TC 11-6 Grounding Techniques

- 5. TM 10069A-14 Operation and Maintenance Instructions with Illustrated Parts Breakdown for Ground Resistance Ohmmeter Model R1L-C
- 6. TM 11509A-OR Users Manual for Model i1000s AC Current Probe for Oscilloscopes
- 7. TM 11-5820-1118-13&P Operator and Field Maintenance Manual Including Repair Parts and Special Tools List for Grounding Kit, MK-2551A/U
- 8. TM 5-690 Grounding and Bonding in Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) Facilities
- 9. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

#### SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Tool Kit, Lineman's Electrician (TK-1141) [B0062]
Ohmmeter, Earth Ground Resistance Tester, Model R1L-C [A7059]

1141-XENG-1747: Operate a floodlight set

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With electrical support plan and established Course of Action (COA), equipment, personnel, material, and references.

<u>STANDARD</u>: Per TM 11120A-OI, documenting operation in accordance with TM 4700-15/1H and complying with unit's mission requirements.

# PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review electrical support plan.
- 5. Review references.
- 6. Reassess operational risk.
- 7. Don Personal Protective Equipment (PPE).
- 8. Place applicable environmental safeguards in place.
- 9. Set up floodlight set.
- 10. Post safety/warning signs.
- 11. Ensure equipment is grounded.
- 12. Perform before operation checks.
- 13. Start generator.
- 14. Illuminate designated area.
- 15. Perform during operation checks/services.
- 16. Maintain equipment logs.
- 17. Shut down equipment per operational situation.
- 18. Perform after operation checks.
- 19. Document equipment operation.

20. Pack out equipment for movement/retrograde.

PREREQUISITE EVENTS: 1141-ADMN-1001

RELATED EVENTS:

1141-ADMN-1009 1141-MANT-1247 1141-XENG-1753

#### REFERENCES:

- 1. MCRP 3-17.7K Theater of Operations Electrical Systems
- 2. TM 11120A-OI Operation/Maintenance Manual with Repair Parts List for Floodlight Set (Model MLT5060MIT)
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)
Tool Kit, Lineman's Electrician (TK-1141) [B0062]
Floodlight Set, Model MLT5060MIT [B0640]

#### MATERIAL:

Electrical support plan
NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)
Fuel

# **MISCELLANEOUS:**

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Graduates of the Basic Electrician Course (CID: M0311B2) are licensed operators of the Model MLT5060MIT Floodlight Set [B0640]. All other operators will need to be licensed through an authorized licensing program in the Total Force.

**SPECIAL PERSONNEL CERTS:** Operators must be licensed to operate a Model MLT5060MIT Floodlight Set [B0640].

1141-XENG-1751: Operate a 3kW Tactical Generator Set

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** At an established generator site, with electrical support plan, equipment, material, and references.

**STANDARD:** Per TM 10155A-OI/1A, documenting operation in accordance with TM 4700-15/1H and complying with unit's mission requirements.

# PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review electrical support plan.
- 5. Review references.
- 6. Reassess operational risk, ensuring warning signs are posted.
- 7. Don Personal Protective Equipment (PPE).
- 8. Ensure equipment is grounded.
- 9. Perform before operation checks, including all electrical power cable connections.
- 10. Start up generator.
- 11. Contact load.
- 12. Perform during operation checks/services.
- 13. Maintain equipment logs.
- 14. Shut down equipment per operational situation.
- 15. Perform after operation checks.
- 16. Document equipment operation.
- 17. Pack out equipment for movement/retrograde.

## PREREQUISITE EVENTS: 1141-ADMN-1001

# RELATED EVENTS:

1141-ADMN-1009 1141-MANT-1251 1141-XENG-1752 1141-XENG-1753 1141-XENG-1754 1141-XENG-2755

## **REFERENCES:**

- 1. CG MarCorSysCom msg R011721Z May 07 Maintenance Advisory Message (MAM): Pulse Solar Charger (PSC) Installation on USMC Tactical Generator Fleet
- 2. SL-3-05926B/10155A Components List for Generator Set, Diesel Engine Driven, Skid Mounted, 3kW, 60Hz, MEP-016B/MEP-831A
- 3. SL-3-6115 Components List for Generator Set, Diesel Engine Driven, Skid Mounted
- 4. TM 10155A-OI/1A Operator and Field Maintenance Manual (Including Repair Parts and Special Tools List) for 3kW Tactical Quiet Generator Set MEP-831A (60Hz) and MEP-832A (400Hz)
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

MEP-831A 3kW 60Hz Tactical Quiet Generator Set [B0730]

# MATERIAL:

Electrical support plan

NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)

Fuel

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Graduates of the Basic Electrician Course (CID: M0311B2) are licensed operators of the MEP-831A 3kW 60Hz Tactical

Quiet Generator Set [B0730]. All other operators will need to be licensed through an authorized licensing program in the Total Force.

SPECIAL PERSONNEL CERTS: Operators must be licensed to operate a MEP-831A 3kW 60Hz Tactical Quiet Generator Set [B0730].

1141-XENG-1752: Operate a 5kW Tactical Generator Set

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** At an established generator site, with electrical support plan, equipment, material, and references.

**STANDARD:** Per TM 9-6115-641-10 or TM 09292B-0I/1, documenting operation in accordance with TM 4700-15/1H and complying with unit's mission requirements.

#### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- Identify CARBON MONOXIDE HAZARD(S).
- 4. Review electrical support plan.
- 5. Review references.
- 6. Reassess operational risk, ensuring warning signs are posted.
- 7. Don Personal Protective Equipment (PPE).
- 8. Ensure equipment is grounded.
- 9. Perform before operation checks, including all electrical power cable connections.
- 10. Start up generator.
- 11. Check switches/gauges for correct settings.
- 12. Contact load.
- 13. Perform during operation checks/services.
- 14. Maintain equipment logs.
- 15. Shut down equipment per operational situation.
- 16. Perform after operation checks.
- 17. Document equipment operation.
- 18. Pack out equipment for movement/retrograde.

# PREREQUISITE EVENTS:

1141-ADMN-1001 1141-XENG-1618

## RELATED EVENTS:

1141-ADMN-1009 1141-MANT-1251 1141-XENG-1751 1141-XENG-1753 1141-XENG-1754 1141-XENG-2755

## **REFERENCES:**

1. SL-3-6115 Components List for Generator Set, Diesel Engine Driven, Skid Mounted

- 2. TM 09292B-OI/3 Operator's Manual for Generator Set, Skid Mounted 5kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1030 50/60Hz and MEP-1031 400Hz
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures
- 4. TM 9-6115-641-10 Operator's Manual for Generator Set, Skid Mounted, Tactical Quiet, 5kW, 60 and 400Hz, MEP-802A and MEP-812A

#### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Tool Kit, Lineman's Electrician (TK-1141) [B0062]
MEP-802A 5kW 60Hz Tactical Quiet Generator Set [B0077] - or MEP-1030 5kW 50/60Hz AMMPS Generator Set [B0077]

# MATERIAL:

Electrical support plan
NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)
Fuel

#### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Graduates of the Basic Electrician Course (CID: M0311B2) are licensed operators of the MEP-1030 5kW 50/60Hz AMMPS Generator Set [B0077]. All other operators of the MEP-1030 will need to be licensed through an authorized licensing program in the Total Force. Graduates of the Basic Electrician Course (CID: M0311B2) ARE NOT licensed operators of the MEP-802A 5kW 60Hz Tactical Quiet Generator Set [B0077]. All operators of the MEP-802A will need to be licensed through an authorized licensing program in the Total Force.

SPECIAL PERSONNEL CERTS: Operators must be licensed to operate a MEP-1030 5kW 50/60Hz AMMPS Generator Set [B0077] or a MEP-802A 5kW 60Hz Tactical Quiet Generator Set [B0077].

1141-XENG-1753: Operate a 10kW Tactical Generator Set

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** At an established generator site, with electrical support plan, equipment, material, and references.

# PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review electrical support plan.
- 5. Review references.
- 6. Reassess operational risk, ensuring warning signs are posted.
- 7. Don Personal Protective Equipment (PPE).
- 8. Ensure equipment is grounded.
- 9. Perform before operation checks, including all electrical power cable connections.
- 10. Start up generator.
- 11. Check switches/gauges for correct settings.
- 12. Contact load.
- 13. Perform during operation checks/services.
- 14. Maintain equipment logs.
- 15. Shut down equipment per operational situation.
- 16. Perform after operation checks.
- 17. Document equipment operation.
- 18. Pack out equipment for movement/retrograde.

# PREREQUISITE EVENTS:

1141-ADMN-1001 1141-XENG-1618

#### RELATED EVENTS:

| 1141-ADMN-1009 | 1141-MANT-1251 | 1141-XENG-1747 |
|----------------|----------------|----------------|
| 1141-XENG-1751 | 1141-XENG-1752 | 1141-XENG-1754 |
| 1141-XENG-2755 |                |                |

# REFERENCES:

- 1. CG MarCorSysCom msg R011721Z May 07 Maintenance Advisory Message (MAM): Pulse Solar Charger (PSC) Installation on USMC Tactical Generator Fleet
- 2. SL-3-6115 Components List for Generator Set, Diesel Engine Driven, Skid Mounted
- 3. TM 09247A/09248A-10/1 Operator's Manual for Generator Set, Skid Mounted, Tactical Quiet, 10kW, MEP-803A/MEP-813A
- 4. TM 11783A/11784A-OI Operator's Manual for Generator Set, Skid Mounted 10kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1040 50/60Hz and MEP-1041 400Hz
- 5. TM 4700-15/1 Ground Equipment Record Procedures

# **SUPPORT REQUIREMENTS:**

## **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

MEP-803A 10kW 60Hz Tactical Quiet Generator Set [B0891] - or -

MEP-813A 10kW 400Hz Tactical Quiet Generator Set [B0921] - or -

MEP-1040 10kW 50/60Hz AMMPS Generator Set [B0891] - or -

MEP-1041 10kW 400Hz AMMPS Generator Set [B0921]

# MATERIAL:

Electrical support plan

NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service

Record) Fuel

# MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Graduates of the Basic Electrician Course (CID: M0311B2) are licensed operators of the MEP-803A 10kW 60Hz Tactical Quiet Generator Set [B0891], MEP-813A 10kW 400Hz Tactical Quiet Generator Set [B0921], MEP-1040 10kW 50/60Hz AMMPS Generator Set [B0891] and MEP-1041 10kW 400Hz AMMPS Generator Set [B0921]. All other operators will need to be licensed through an authorized licensing program in the Total Force.

SPECIAL PERSONNEL CERTS: Operators must be licensed to operate a MEP-803A 10kW 60Hz Tactical Quiet Generator Set [B0891], MEP-813A 10kW 400Hz Tactical Quiet Generator Set [B0921], MEP-1040 10kW 50/60Hz AMMPS Generator Set [B0891] or MEP-1041 10kW 400Hz AMMPS Generator Set [B0921].

1141-XENG-1754: Operate a 15kW Tactical Generator Set

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** At an established generator site, with electrical support plan, equipment, material, and references.

**STANDARD:** Per TM 11773A-OI, documenting operation in accordance with TM 4700-15/1H and complying with unit's mission requirements.

# PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review electrical support plan.
- 5. Review references.
- 6. Reassess operational risk, ensuring warning signs are posted.
- 7. Don Personal Protective Equipment (PPE).
- 8. Ensure equipment is grounded.
- 9. Perform before operation checks, including all electrical power cable connections.
- 10. Start up generator.
- 11. Check switches/gauges for correct settings.
- 12. Contact load.
- 13. Perform during operation checks/services.
- 14. Maintain equipment logs.
- 15. Shut down equipment per operational situation.
- 16. Perform after operation checks.
- 17. Document equipment operation.
- 18. Pack out equipment for movement/retrograde.

# PREREQUISITE EVENTS:

1141-ADMN-1001 1141-XENG-1618

RELATED EVENTS:

1141-ADMN-1009 1141-MANT-1251 1141-XENG-1751 1141-XENG-1752 1141-XENG-1753 1141-XENG-2755

#### **REFERENCES:**

1. TM 11773A-OI Operator's Manual for Generator Set, Skid Mounted 15kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1050 50/60Hz and MEP-1051 400Hz

2. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Tool Kit, Lineman's Electrician (TK-1141) [B0062]
MEP-1050 15kW 50/60Hz AMMPS Generator Set [B0043]

#### MATERIAL:

Electrical support plan
NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)
Fuel

# **MISCELLANEOUS:**

ADMINISTRATIVE INSTRUCTIONS: Graduates of the Basic Electrician Course (CID: M0311B2) are licensed operators of the MEP-1050 15kW 50/60Hz AMMPS Generator Set [B0043]. All other operators of the MEP-1050 will need to be licensed through an authorized licensing program in the Total Force.

**SPECIAL PERSONNEL CERTS:** Operators must be licensed to operate a MEP-1050  $\overline{15kW}$  50/60Hz AMMPS Generator Set [B0043].

1141-XENG-1757: Operate a 30kW Tactical Generator Set

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** At an established generator site, with electrical support plan, equipment, material, and references.

# PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review electrical support plan.
- 5. Review references.
- 6. Reassess operational risk, ensuring warning signs are posted.
- 7. Don Personal Protective Equipment (PPE).
- 8. Ensure equipment is grounded.
- 9. Perform before operation checks, including all electrical power cable connections.
- 10. Start up generator.
- 11. Check switches/gauges for correct settings.
- 12. Contact load.
- 13. Perform during operation checks/services.
- 14. Maintain equipment logs.
- 15. Shut down equipment per operational situation.
- 16. Perform after operation checks.
- 17. Document equipment operation.
- 18. Pack out equipment for movement/retrograde.

# PREREQUISITE EVENTS:

| 1141-ADMN-1001                                | 1141-XENG-1618  |
|-----------------------------------------------|-----------------|
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#### RELATED EVENTS:

| 1141-ADMN-1009 | 1141-MANT-1251 | 1141-XENG-1751 |
|----------------|----------------|----------------|
| 1141-XENG-1752 | 1141-XENG-1753 | 1141-XENG-1754 |
| 1141-XENG-1763 | 1141-XENG-1765 | 1141-XENG-2737 |
| 1141-XENG-2755 |                |                |

#### **REFERENCES:**

- 1. CG MarCorSysCom msg R011721Z May 07 Maintenance Advisory Message (MAM): Pulse Solar Charger (PSC) Installation on USMC Tactical Generator Fleet
- 2. SL-3-6115 Components List for Generator Set, Diesel Engine Driven, Skid Mounted
- 3. TM 09246C/11776A-OI Operator's Manual for Generator Set, Skid Mounted 30kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1060 50/60Hz and MEP-1061 400Hz
- 4. TM 09249A/09246A-10/1 Operator's Manual for Generator Set, Skid Mounted, Tactical Quiet, 30kW, MEP-805A/MEP-815A
- 5. TM 09249B/09246B-14/1 Operator, Unit, Direct Support and General Support Maintenance Manual for Generator Set, Skid Mounted, Tactical Quiet, 30kW, 50/60 and 400Hz, MEP-805B/MEP-815B
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

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Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

MEP-805A 30kW 60Hz Tactical Quiet Generator Set [B0953] - or -

MEP-815A 30kW 400Hz Tactical Quiet Generator Set [B0971] - or -

MEP-805B 30kW 60Hz Tactical Quiet Generator Set [B0953] - or -

MEP-815B 30kW 400Hz Tactical Quiet Generator Set [B0971] - or -
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MEP-1060 30kW 50/60Hz AMMPS Generator Set [B0953] - or - MEP-1061 30kW 400Hz AMMPS Generator Set [B0971]

#### MATERIAL:

Electrical support plan
NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)
Fuel

# MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Graduates of the Basic Electrician Course (CID: M0311B2) are licensed operators of the MEP-805B 30kW 60Hz Tactical Quiet Generator Set [B0953], MEP-815B 30kW 400Hz Tactical Quiet Generator Set [B0971], MEP-1060 30kW 50/60Hz AMMPS Generator Set [B0953] and MEP-1061 30kW 400Hz AMMPS Generator Set [B0971]. Graduates of the Basic Electrician Course (CID: M0311B2) ARE NOT licensed operators of the MEP-805A 30kW 60Hz Tactical Quiet Generator Set [B0953] or the MEP-815B 30kW 400Hz Tactical Quiet Generator Set [B0971]. They will need to be licensed on the MEP-805A and MEP-815A through an authorized licensing program in the Total Force.

SPECIAL PERSONNEL CERTS: Only Electricians (MOS 1141) will be licensed to operate a MEP-805A 30kW 60Hz Tactical Quiet Generator Set [B0953], MEP-815A 30kW 400Hz Tactical Quiet Generator Set [B0971], MEP-805B 30kW 60Hz Tactical Quiet Generator Set [B0953], MEP-815B 30kW 400Hz Tactical Quiet Generator Set [B0971], MEP-1060 30kW 50/60Hz AMMPS Generator Set [B0953] or MEP-1061 30kW 400Hz AMMPS Generator Set [B0971].

1141-XENG-1763: Operate a 60kW Tactical Generator Set

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** At an established generator site, with electrical support plan, equipment, material, and references.

#### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review electrical support plan.
- 5. Review references.
- 6. Reassess operational risk, ensuring warning signs are posted.
- 7. Don Personal Protective Equipment (PPE).

- 8. Ensure equipment is grounded.
- 9. Perform before operation checks, including all electrical power cable connections.
- 10. Start up generator.
- 11. Check switches/gauges for correct settings.
- 12. Contact load.
- 13. Perform during operation checks/services.
- 14. Maintain equipment logs.
- 15. Shut down equipment per operational situation.
- 16. Perform after operation checks.
- 17. Document equipment operation.
- 18. Pack out equipment for movement/retrograde.

#### PREREQUISITE EVENTS:

1141-ADMN-1001

1141-XENG-2755

| RELATED EVENTS: |                |                |
|-----------------|----------------|----------------|
| 1141-ADMN-1009  | 1141-MANT-1251 | 1141-XENG-1751 |
| 1141-XENG-1752  | 1141-XENG-1753 | 1141-XENG-1754 |
| 1141-XENG-1757  | 1141-XENG-1765 | 1141-XENG-2737 |

1141-XENG-1618

# REFERENCES:

- 1. CG MarCorSysCom msg R011721Z May 07 Maintenance Advisory Message (MAM): Pulse Solar Charger (PSC) Installation on USMC Tactical Generator Fleet
- 2. SL-3-6115 Components List for Generator Set, Diesel Engine Driven, Skid Mounted
- 3. TM 09244A/09245A-10/1A Operator's Manual for Generator Set, Skid Mounted, Tactical Quiet, 60kW, MEP-806A/MEP-816A
- 4. TM 09244B/09245B-14/1 Operator, Unit, Direct Support and General Support Maintenance Manual for Generator Set, Skid Mounted, Tactical Quiet, 60kW, 50/60 and 400 Hz, MEP-806B and MEP-816B
- 5. TM 09244C/09245C-OI Operator's Manual for Generator Set, Skid Mounted 60kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1070 50/60Hz and MEP-1071 400Hz
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

MEP-806A 60kW 60Hz Tactical Quiet Generator Set [B1021] - or -

MEP-816A 60kW 400Hz Tactical Quiet Generator Set [B1016] - or -

MEP-806B 60kW 60Hz Tactical Quiet Generator Set [B1021] - or -

MEP-816B 60kW 400Hz Tactical Quiet Generator Set [B1016] - or -

MEP-1070 60kW 50/60Hz AMMPS Generator Set [B1021] - or -

MEP-1071 60kW 400Hz AMMPS Generator Set [B1016]

# MATERIAL:

Electrical support plan

NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)

Fuel

# MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Graduates of the Basic Electrician Course (CID: M0311B2) are licensed operators of the MEP-806B 60kW 60Hz Tactical Quiet Generator Set [B1021], MEP-816B 60kW 400Hz Tactical Quiet Generator Set [B1016], MEP-1070 60kW 50/60Hz AMMPS Generator Set [B1021] and MEP-1071 60kW 400Hz AMMPS Generator Set [B1016]. Graduates of the Basic Electrician Course (CID: M0311B2) ARE NOT licensed operators of the MEP-806A 60kW 60Hz Tactical Quiet Generator Set [B1021] or the MEP-816B 60kW 400Hz Tactical Quiet Generator Set [B1016]. They will need to be licensed on the MEP-806A and MEP-816A through an authorized licensing program in the Total Force.

SPECIAL PERSONNEL CERTS: Only Electricians (MOS 1141) will be licensed to operate a MEP-806A 60kW 60Hz Tactical Quiet Generator Set [B1021], MEP-816A 60kW 400Hz Tactical Quiet Generator Set [B1016], MEP-806B 60kW 60Hz Tactical Quiet Generator Set [B1021], MEP-816B 60kW 400Hz Tactical Quiet Generator Set [B1016], MEP-1070 60kW 50/60Hz AMMPS Generator Set [B1021] or MEP-1071 60kW 400Hz AMMPS Generator Set [B1016].

1141-XENG-1765: Operate a 100kW Tactical Generator Set

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: At an established generator site, with electrical support plan, equipment, material, and references.

<u>STANDARD</u>: Per TM 07464B-12 or TM 07464C-10/1, documenting operation in accordance with TM 4700-15/1H and complying with unit's mission requirements.

#### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review electrical support plan.
- 5. Review references.
- 6. Reassess operational risk, ensuring warning signs are posted.
- 7. Don Personal Protective Equipment (PPE).
- 8. Ensure equipment is grounded.
- 9. Perform before operation checks, including all electrical power cable connections.
- 10. Start up generator.
- 11. Check switches/gauges for correct settings.
- 12. Contact load.
- 13. Perform during operation checks/services.
- 14. Maintain equipment logs.
- 15. Shut down equipment per operational situation.
- 16. Perform after operation checks.

- 17. Document equipment operation.
- 18. Pack out equipment for movement/retrograde.

# PREREQUISITE EVENTS:

1141-ADMN-1001 1141-XENG-1618

#### RELATED EVENTS:

| 1141-ADMN-1009 | 1141-MANT-1251 | 1141-XENG-1751 |
|----------------|----------------|----------------|
| 1141-XENG-1752 | 1141-XENG-1753 | 1141-XENG-1754 |
| 1141-XENG-1757 | 1141-XENG-1763 | 1141-XENG-2737 |
| 1141-XENG-2755 |                |                |

#### **REFERENCES:**

- 1. CG MarCorSysCom msg R011721Z May 07 Maintenance Advisory Message (MAM): Pulse Solar Charger (PSC) Installation on USMC Tactical Generator Fleet
- 2. SL-3-6115 Components List for Generator Set, Diesel Engine Driven, Skid Mounted
- 3. TM 07464B-12 Operator and Organizational Maintenance Manual for Generator Set, Diesel Engine Driven, Tactical Skid Mounted, 100kW, 50/60Hz, 3 Phase, 4 Wire, MEP-007B
- 4. TM 07464C-10/1 Operator's Manual for Generator Set, Skid Mounted, Tactical Quiet, 100 kW, 50/60 Hz, MEP-807A
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures

#### SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)
Tool Kit, Lineman's Electrician (TK-1141) [B0062]
MEP-007B 100kW 50/60Hz Tactical Generator Set [B1045] - or MEP-807A 100kW 50/60Hz Tactical Quiet Generator Set [B1045]

## MATERIAL:

Electrical support plan
NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)
Fuel

# MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Graduates of the Basic Electrician Course (CID: M0311B2) are licensed operators of the MEP-807A 100kW 50/60Hz Tactical Quiet Generator Set [B1045]. Graduates of the Basic Electrician Course (CID: M0311B2) ARE NOT licensed operators of the MEP-007B 100kW 50/60Hz Tactical Generator Set [B1045]. They will need to be licensed on the MEP-007B through an authorized licensing program in the Total Force.

SPECIAL PERSONNEL CERTS: Only Electricians (MOS 1141) will be licensed to operate a MEP-007B 100kW 50/60Hz Tactical Generator Set [B1045] or MEP-807A 100kW 50/60Hz Tactical Quiet Generator Set [B1045].

1141-XENG-1795: Parallel tactical generator sets

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

<u>DESCRIPTION</u>: NOTE: Due to the hazards involved, to both personnel and equipment, tactical generators should only be placed in parallel by licensed (MOS 1141) Electricians or qualified (MOS 1142) Engineer Equipment Electrical Systems Technicians.

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: At an established generator site, with electrical support plan, equipment, tools, paralleling cable, conductors, overcurrent protection, and references.

**STANDARD:** So generators are synchronized and sharing the electrical load in support of unit's mission and commander's intent.

# PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review electrical support plan.
- 5. Review references.
- 6. Reassess operational risk.
- 7. Don Personal Protective Equipment (PPE).
- 8. Ensure generators are grounded.
- 9. Perform before operation checks on generators.
- 10. Connect generators with paralleling cable and conductors through overcurrent protection.
- 11. Ensure all load/voltage requirements are observed.
- 12. Synchronize generators.
- 13. Contact load.
- 14. Make necessary adjustments.
- 15. Perform during operation checks/services.

# PREREQUISITE EVENTS:

| 1141-ADMN-1001 | 1141-ADMN-1002 | 1141-XENG-1752 |
|----------------|----------------|----------------|
| 1141-XENG-1753 | 1141-XENG-1754 | 1141-XENG-1757 |
| 1141-XENG-1763 | 1141-XENG-1765 |                |

**RELATED EVENTS:** 1142-MANT-1195

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCRP 3-17.7K Theater of Operations Electrical Systems
- 3. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)
Tool Kit, Lineman's Electrician (TK-1141) [B0062]
Overcurrent protection (MEPDIS/MEPDIS-R preferred if available)
Tactical generator sets (sizes designated by electrical support plan)

#### MATERIAL:

Electrical support plan
Paralleling cable
Conductors
Fuel

#### MISCELLANEOUS:

## ADMINISTRATIVE INSTRUCTIONS:

Graduates of the Basic Electrician Course (CID: M0311B2) are trained and qualified to parallel generators.

Only trained/qualified Marines (MOS 1141 & 1142) will parallel generators.

<u>SPECIAL PERSONNEL CERTS</u>: Due to the hazards involved, to both personnel and equipment, tactical generators should only be placed in parallel by licensed (MOS 1141) Electricians or qualified (MOS 1142) Engineer Equipment Electrical Systems Technicians.

1141-XENG-1961: Install an interior electrical wiring system in a permanent structure

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** At a structure requiring electrical work, with an interior electrical plan, a Bill of Materials (BOM), tools, and references.

**STANDARD:** So structure is wired per the interior electrical plan.

# PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review Bill of Materials (BOM).
- 3. Inventory BOM.
- 4. Review references.
- 5. Review electrical plan.
- 6. Assess risks (ORM).
- 7. Don Personal Protective Equipment (PPE).
- 8. Run wiring.
- 9. Install electrical devices.
- 10. Inspect wiring.
- 11. Test the electrical wiring system.

**PREREQUISITE EVENTS:** 1141-ADMN-1001

RELATED EVENTS:

1141-ADMN-1002 1141-MANT-1101 1141-XENG-1692

1141-XENG-1693 1141-XENG-2603

# REFERENCES:

1. MCRP 3-17.7K Theater of Operations Electrical Systems

- 2. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 3. SL-3-11390A Components List for Tool Kit, Intermediate Level Electricians (I-Level Tool Kit)(TK-1141/1)
- 4. SL-3-11509A Components List for Tool Kit, Lineman's Electrician (TK-1141)
- 5. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 6. TM 5-704 Construction Print Reading in the Field
- 7. TM 5-811-1 Electric Power Supply and Distribution

# SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Tool Kit, Intermediate Level Electrician's (TK-1141/1) [B7900]

MATERIAL: Bill of Materials (BOM)

1141-XENG-1962: Repair the interior electrical wiring system of a permanent structure

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: At a structure with a faulty electrical system, a report detailing specific repairs to be made, a Bill of Materials (BOM), tools, and references.

STANDARD: So repairs detailed on the report are made.

#### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review the repairs to be made.
- 3. Review references.
- 4. Determine code requirements.
- 5. Identify risks (ORM).
- 6. Don Personal Protective Equipment (PPE).
- 7. Isolate repair area (Lockout/Tagout).
- 8. Remove broken/damaged materials.
- 9. Make repairs.
- 10. Test repairs.

PREREQUISITE EVENTS:

1141-ADMN-1001 1141-ADMN-1002 1141-MANT-1101

RELATED EVENTS:

1141-XENG-1692 1141-XENG-1693 1141-XENG-2603

### REFERENCES:

1. MCRP 3-17.7K Theater of Operations Electrical Systems

- 2. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 3. SL-3-11390A Components List for Tool Kit, Intermediate Level Electricians (I-Level Tool Kit)(TK-1141/1)
- 4. SL-3-11509A Components List for Tool Kit, Lineman's Electrician (TK-1141)
- 5. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools

# SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Tool Kit, Intermediate Level Electrician's (TK-1141/1) [B7900]

MATERIAL: Bill of Materials (BOM)

8004. 2000-LEVEL EVENTS

1141-ADMN-2021: Apply safety programs

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**BILLETS:** Electrician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With resources and references.

**STANDARD:** So applicable safety measures and procedures are in place and enforced.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Identify equipment safety requirements.
- 3. Identify personnel safety requirements.
- 4. Conduct Operational Risk Assessments.
- 5. Implement safety procedures.
- 6. Conduct safety awareness training.
- 7. Evaluate safety programs.
- 8. Enforce safety regulations.
- 9. Provide input for/submit required reports.

# PREREQUISITE EVENTS:

1141-ADMN-1001 1141-ADMN-1002

RELATED EVENTS:

1142-ADMN-2021 1161-ADMN-2021 1171-ADMN-2021

#### REFERENCES:

1. Appropriate Technical Manuals

- 2. MCO 3500.27\_ Operational Risk Management (ORM)
- 3. MCO 5100.19 Marine Corps Traffic Safety Program (Drivesafe)
- 4. MCO 5100.29\_ Marine Corps Safety Program
- 5. MCO 5100.30\_ Marine Corps Recreation and Off-Duty Safety (RODS) Program
- 6. MCO 5100.34\_ Deadline Safety of Use Message Instructions to Suspend Operations of Marine Corps Ground Equipment and Weapons Systems and Safety of
- Use Alerts
- 7. MCO 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Policy Order 8. MCO 5104.2\_ Marine Corps Radiofrequency Electromagnetic Field Personnel
- Protection Program
- 9. MCO 5104.3\_ Marine Corps Radiation Safety Program
- 10. MCO P5102.1\_ Navy and Marine Corps Mishap and Safety Investigation Reporting and Record Keeping Manual
- 11. NAVMC DIR 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Program Manual
- 12. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 13. UNIT SOP Unit's Standing Operating Procedures

1141-ADMN-2022: Apply environmental regulations

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**BILLETS:** Electrician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With references.

STANDARD: So environmental policies and procedures will be adhered to.

# PERFORMANCE STEPS:

- 1. Review references.
- 2. Verify section's compliance with applicable environmental regulations and restrictions.
- 3. Monitor platoon/section hazardous material disposal program.
- 4. Maintain hazardous materials storage areas.
- 5. Maintain Material Safety Data Sheets (MSDS).
- 6. Report any situations that require reporting.

PREREQUISITE EVENTS: 1141-ADMN-1004

# RELATED EVENTS:

1142-ADMN-2022 1161-ADMN-2022 1171-ADMN-2022

#### **REFERENCES:**

- 1. INSTALLATION SOP Installation's Standing Operating Procedures
- 2. MCO 4450.12\_ Storage and Handling of Hazardous Materials
- 3. MCO P5090.2\_ Environmental Compliance and Protection Manual
- 4. MCRP 4-11B Environmental Considerations
- 5. OPNAVINST 5090.1\_ Environmental Readiness Program Manual

1141-ADMN-2023: Conduct MOS training

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** MOS is Military Occupational Specialty.

BILLETS: Electrician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With training resources, records, and references.

STANDARD: So MOS proficiency is maintained.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Identify individual training requirements (review T&R Manual and MOS Roadmaps).
- 3. Identify unit training requirements (review unit METL/Commander's intent).
- 4. Determine on the job and sustainment training requirements by grade and MOS.
- 5. Develop lesson plans.
- 6. Develop training methods/aids/materials (as required).
- 7. Conduct training.
- 8. Document training.
- 9. Encourage use of self-directed study and assist in providing resources.

# RELATED EVENTS:

1142-ADMN-2023 1161-ADMN-2023 1171-ADMN-2023

# **REFERENCES:**

- 1. MCO 1553.3\_ Unit Training Management (UTM) Program
- 2. MCO 1553.4\_ Professional Military Education (PME)
- 3. MCO 3500.26\_ Universal Naval Task List (UNTL) Version 3.0
- 4. MCRP 3-0A Unit Training Management Guide
- 5. MCRP 3-0B How to Conduct Training
- 6. NAVMC 1553.1\_ Systems Approach to Training (SAT) Users Guide
- 7. NAVMC 3500.12\_ Marine Corps Engineer and Utilities Training and Readiness Manual
- 8. OPNAVINST 1560.10\_ Administration of the United Services Military Apprenticeship Program (USMAP)  $\,$
- 9. UNIT SOP Unit's Standing Operating Procedures

1141-ADMN-2031: Brief electrical safety to end users

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Electrician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With a field electrical power generation and distribution system plan, sample warning signs, and references.

<u>STANDARD</u>: So "Off Limit" areas, meanings of warning signs, prohibited electrical equipment and reasons, prohibited practices, emergency procedures, and unsafe conditions are identified and addressed.

# PERFORMANCE STEPS:

- 1. Review electrical system plan and references.
- 2. Identify prohibited electrical equipment.
- 3. Identify prohibited practices.
- 4. Identify unsafe conditions.
- 5. Identify "Off Limit" areas.
- 6. Identify emergency procedures.
- 7. Assemble briefing notes and materials.
- 8. Deliver brief.
- 9. Supervise electrical safety compliance.

**PREREQUISITE EVENTS:** 1141-ADMN-1001

#### RELATED EVENTS:

1141-ADMN-1002 1141-ADMN-1003 1169-ADMN-2031

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. 29 CFR 1910.269 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 269 Electrical Power Generation, Transmission, and Distribution
- 3. 29 CFR 1910.301-399 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Subpart S, (Standard Numbers 301-399) Electrical
- 4. ATTP 5-0.1 Commander and Staff Officer Guide
- 5. MCO 3500.27\_ Operational Risk Management (ORM)
- 6. MCRP 3-17.7K Theater of Operations Electrical Systems
- 7. NAVMC DIR 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Program Manual
- 8. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 9. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment

# SUPPORT REQUIREMENTS:

MATERIAL: Sample warning signs.

1141-ADMN-2032: Conduct a pole top rescue

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Without references and with a lineman's tool kit and rope.

STANDARD: So injured person is lowered to the ground without further injury.

#### PERFORMANCE STEPS:

- 1. Evaluate the situation.
- 2. Send for help.
- 3. Provide personal protection.
- 4. Climb to the rescue position (with rescue rope).
- 5. Evaluate the victim's condition.
- 6. Tie rescue rope to victim.
- 7. Lower victim to the ground.
- 8. Start artificial resuscitation (if necessary).
- 9. Remain with victim until medical help arrives.
- 10. Report incident.

# PREREQUISITE EVENTS:

1141-ADMN-1001 1141-XENG-2694

**RELATED EVENTS:** 1141-ADMN-1003

# REFERENCES:

- 1. MCO 3500.27\_ Operational Risk Management (ORM)
- 2. MCRP 3-02G First Aid
- 3. MCRP 3-17.7K Theater of Operations Electrical Systems

#### SUPPORT REQUIREMENTS:

**EQUIPMENT:** Tool Kit, Lineman's Electrician (TK-1141) [B0062]

MATERIAL: Ropes

1141-ADMN-2041: Initiate a PQDR

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** PQDR is Product Quality Deficiency Report (SF 368).

**BILLETS:** Electrician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With a defective item, blank forms, and references.

STANDARD: So deficiency can be identified.

# PERFORMANCE STEPS:

- 1. Review references.
- 2. Collect data.
- 3. Verify deficiency requires a PQDR.
- 4. Determine if deficiency is Category I or Category II.
- 5. Establish exhibit controls using DD Forms 1575 and 2332 (if required).
- 6. Complete PQDR.
- 7. Submit PQDR per Unit SOP.

## RELATED EVENTS:

1142-ADMN-2041 1161-ADMN-2041 1171-ADMN-2041

# REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCO 4855.10\_ Product Quality Deficiency Report (PQDR)
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures
- 4. UNIT SOP Unit's Standing Operating Procedures

#### SUPPORT REQUIREMENTS:

# MATERIAL:

- DD Form 1575 (Suspended Tag Materiel)
- DD Form 2332 (Product Quality Deficiency Report Exhibit)
- SF 368 (Product Quality Deficiency Report [PQDR])

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Additional information for this event can be found at http://www.logcom.usmc.mil/pqdr.

1141-ADMN-2051: Establish equipment preventive maintenance schedule

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician, Section Head

**GRADES:** CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment records, forms, and references.

**STANDARD:** So operational readiness of equipment is maintained.

# PERFORMANCE STEPS:

- 1. Review references.
- 2. Determine equipment Preventive Maintenance Checks and Services (PMCS) requirements.
- 3. Audit equipment records.

4. Complete PMCS roster (NAVMC 10561).

# PREREQUISITE EVENTS:

1141-ADMN-1006 1141-ADMN-1011

# RELATED EVENTS:

1142-ADMN-2051 1161-ADMN-2051 1171-ADMN-2051

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO P4790.2\_ MIMMS Field Procedures Manual
- 3. MCWP 4-11.4 Maintenance Operations
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. UNIT SOP Unit's Standing Operating Procedures

# SUPPORT REQUIREMENTS:

# MATERIAL:

NAVMC 10561 (Preventive Maintenance Checks and Services (PMCS) Roster) Equipment records

1141-ADMN-2061: Maintain PEB

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: PEB is Pre-Expended Bin.

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With commander's pre-expended bin authorization and references.

**STANDARD:** So common, low-cost, high usage parts are continuously available for immediate maintenance/repair of equipment.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Identify criteria for items placed in PEB.
- 3. Validate authorized PEB listing, ensuring it is signed annually by the commander.
- 4. Identify accountability requirements.
- 5. Requisition replacement parts, as required.
- 6. Roll back/dispose excess items.

# RELATED EVENTS:

1141-ADMN-2062 1142-ADMN-2061 1161-ADMN-2061 1171-ADMN-2061

# REFERENCES:

1. Appropriate Technical Manuals

- 2. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 3. MCO P4790.2\_ MIMMS Field Procedures Manual
- 4. UNIT SOP Unit's Standing Operating Procedures

# SUPPORT REQUIREMENTS:

MATERIAL: Storage bins

1141-ADMN-2062: Maintain equipment repair parts bins

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With forms and references.

**STANDARD:** So parts are kept in appropriate bin (layette) until maintenance/repair of specified equipment is accomplished.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Receive repair parts, placing repair parts in appropriate bin.
- 3. Update Service Request (SR).
- 4. Take corrective action if repair parts do not match requisitions.
- 5. Inventory bin every 2 weeks.
- 6. Issue repair parts when all are received, updating SR per unit's SOP.
- 7. Debrief task in GCSS-MC.

#### RELATED EVENTS:

1141-ADMN-2061 1142-ADMN-2062 1161-ADMN-2062 1171-ADMN-2062

# REFERENCES:

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. MCO P4790.2\_ MIMMS Field Procedures Manual
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures
- 6. UNIT SOP Unit's Standing Operating Procedures

#### SUPPORT REQUIREMENTS:

#### MATERIAL:

Storage bins Forms

1141-ADMN-2071: Monitor maintenance management reports

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: With access to Global Combat Support System-Marine Corps (GCSS-MC), maintenance management reports, supporting documentation, and references.

**STANDARD:** So accuracy of maintenance management reports is validated and unit's readiness and equipment serviceability are enhanced.

# PERFORMANCE STEPS:

- 1. Obtain current Maintenance Process Report (MPR).
- 2. Review references.
- 3. Review supporting documentation (equipment records).
- 4. Review MPR maintenance cycle times.
- 5. Validate daily maintenance reports.
- 6. Validate weekly maintenance reports.
- 7. Validate readiness reports.
- 8. Identify "exceptions."
- 9. Determine actions (if any) to correct "exceptions."
- 10. Make corrections (if any) to Service Requests (SR).
- 11. Debrief SRs.

# PREREQUISITE EVENTS:

| 1141-ADMN-1006 | 1141-ADMN-1007 | 1141-ADMN-1008 |
|----------------|----------------|----------------|
| 1141-ADMN-1009 | 1141-ADMN-1010 | 1141-ADMN-1011 |

# RELATED EVENTS:

| 1141-ADMN-2061 | 1141-ADMN-2062 | 1141-ADMN-2072 |
|----------------|----------------|----------------|
| 1142-ADMN-2071 | 1161-ADMN-2071 | 1171-ADMN-2071 |

## **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 4. MCO 3000.11\_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
- 5. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
- 6. MCO P4790.2\_ MIMMS Field Procedures Manual
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures
- 8. UNIT SOP Unit's Standing Operating Procedures

# SUPPORT REQUIREMENTS:

MATERIAL: Maintenance Process Report (MPR)

1141-ADMN-2072: Monitor maintenance related programs

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, equipment records, and references.

STANDARD: So unit's readiness and equipment serviceability are enhanced.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Determine unit's maintenance program requirements.
- 3. Inspect equipment.
- 4. Monitor Modification Control program.
- 5. Monitor Calibration Control program.
- 6. Monitor New Equipment Warranty program.
- 7. Monitor Quality Deficiency (QDR) program.
- 8. Monitor Recoverable Items (WIR) program.
- 9. Monitor Quality Control (QC) program.
- 10. Monitor Corrosion Prevention and Control (CPAC) program.
- 11. Ensure program and equipment records are maintained.

## **RELATED EVENTS:**

| 1141-ADMN-2041 | 1141-ADMN-2051 | 1141-ADMN-2071 |
|----------------|----------------|----------------|
| 1141-ADMN-2073 | 1142-ADMN-2072 | 1161-ADMN-2072 |
| 1169-ADMN-2072 | 1171-ADMN-2072 |                |

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO 4400.194\_ Marine Corps Class VII Stock Rotation Policy
- 3. MCO  $4733.1_{\rm Marine}$  Corps Test, Measurement, and Diagnostics Equipment (TMDE) Calibration and Maintenance Program (CAMP)
- 5. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 6. MCO P4400.82\_ Regulated/Controlled Item Management Manual
- 7. MCO P4790.2\_ MIMMS Field Procedures Manual
- 8. TI  $4733-OD/1_$  Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
- 9. TM 4700-15/1\_ Ground Equipment Record Procedures
- 10. TM 750-245-4 Direct Support, General Support Quality Control Inspector's Inspection Criteria
- 11. Unit SOP Unit's Standing Operating Procedures

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Some programs listed above may not be required at all units.

1141-ADMN-2073: Inspect maintenance actions (quality control)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician, Quality Control NCO

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With repaired equipment, equipment records and references.

STANDARD: So equipment repairs and documentation are certified complete.

#### PERFORMANCE STEPS:

1. Review references.

- 2. Review Service Request (SR).
- 3. Verify equipment's operational condition.
- 4. Reject faulty equipment.
- 5. Verify equipment closeout.
- 6. Verify completion of maintenance actions.

# PREREQUISITE EVENTS:

1141-ADMN-1006 1141-ADMN-1008

#### RELATED EVENTS:

1141-ADMN-1009 1141-ADMN-1011 1142-ADMN-2073 1161-ADMN-2073 1171-ADMN-2073

#### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. MCO P4790.2\_ MIMMS Field Procedures Manual
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures
- 6. TM 750-245-4 Direct Support, General Support Quality Control Inspector's Inspection Criteria

# SUPPORT REQUIREMENTS:

**EQUIPMENT:** Repaired equipment

MATERIAL: NAVMC 696D (Motor Vehicle and Engineer Equipment Record Folder)

OTHER SUPPORT REQUIREMENTS: Access to Global Combat Support System-Marine Corps (GCSS-MC)

1141-MANT-2191: Comply with a Modification Instruction (MI)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 24 months

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

# INITIAL TRAINING SETTING: MOJT

**CONDITION:** With a Service Request (SR) on effected equipment, the effected equipment, a Modification Instruction (MI), parts, tools, forms, and references.

STANDARD: Per the MI and TM 4700-15/1H.

#### PERFORMANCE STEPS:

- 1. Review MI.
- 2. Review Service Request (SR).
- 3. Inventory parts from layette.
- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE) (if required).
- 6. Apply modification.
- 7. Test modification.
- 8. Document modification.

**PREREQUISITE EVENTS:** 1141-ADMN-1006

# RELATED EVENTS:

1141-ADMN-1008 1141-ADMN-1010 1141-ADMN-1011 1142-MANT-2191 1161-MANT-2191 1171-MANT-2191

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Tool Kit, Lineman's Electrician (TK-1141) [B0062]
Electrical equipment being modified

# MATERIAL:

Modification Instruction (MI)

Parts (if required)

NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)

NAVMC 696D (Motor Vehicle and Engineer Equipment Record Folder)

1141-MANT-2199: Mount/dismount a generator set on a trailer

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Electrician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With a generator set, trailer, personnel, forklift or crane and

operator, tools, and references.

**STANDARD:** So trailer can be safely transported/towed in support of unit's mission.

## PERFORMANCE STEPS:

- 1. Review references.
- 2. Assess operational risk.
- 3. Don Personal Protective Equipment (PPE).
- 4. Prepare equipment.
- 5. Lift generator set on to trailer.
- 6. Fasten generator set to trailer.
- 7. Reverse procedure to dismount generator set.

**RELATED EVENTS:** 1142-MANT-2199

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MI 6115-24/24D Trailer Mounting of 10kW, MEP-003A, MEP-112A, MEP-803A, MEP-813A Generators on M116A2/3 Series Trailer
- 3. MI 6115-OI/25C Trailer Mounting of 3kW, MEP-831A Generators on M116A2/3 Series Trailer
- 4. MI 6115-OR/26A Trailer Mounting of Tactical Quiet Generators (TQG), 60 Kilowatt 60 Hertz (MEP-806A/B) or 60 Kilowatt 400 Hertz (MEP-816A/B) on M353 Trailer
- 5. MI 6115-OR/27A Trailer Mounting of Tactical Quiet Generators (TQG), 30 Kilowatt 60 Hertz (MEP-805A/B) or 30 Kilowatt 400 Hertz (MEP-815A/B) on M353 Trailer

# SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Tool Kit, Lineman's Electrician (TK-1141) [B0062]
Forklift or crane (with capacity to lift generator)
Generator
Trailer

MATERIAL: Fasteners to hold generator on trailer

## UNITS/PERSONNEL:

 ${\tt MOS}\ 1345$  (Engineer Equipment Operator) to operate forklift or crane Personnel (any  ${\tt MOS})$  to help place generator

1141-MANT-2218: Perform scheduled PMCS on an ITEG generator

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

<u>DESCRIPTION</u>: PMCS is Preventive Maintenance Checks and Services. ITEG is Integrated Trailer/ECU/Generator. ECU is Environmental Control Unit.

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

# INITIAL TRAINING SETTING: MOJT

CONDITION: With equipment, personnel, material, and references.

STANDARD: So equipment is checked and serviced per TM 11490A-OR and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

#### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review equipment technical manuals.
- 5. Review Service Request (SR).
- 6. Don Personal Protective Equipment (PPE).
- 7. Contain (Lockout/Tagout) hazardous energy.
- 8. Inspect equipment.
- 9. Service equipment.
- 10. Document maintenance performed and deficiencies/discrepancies noted.

# PREREQUISITE EVENTS:

1141-ADMN-1001 1141-ADMN-1002 1141-ADMN-1006

1141-ADMN-1011

#### RELATED EVENTS:

1141-ADMN-1007 1141-ADMN-1008

#### REFERENCES:

- 1. FP 11490A Fielding Plan for Integrated Trailer Environmental Control Unit & Generator (ITEG)
- 2. SI 11490A-OI Warranty Procedures for the Integrated Trailer-ECU-Generator
- 3. SL-3-11490A Components List for Integrated Trailer, Environmental Control Unit, Generator (ITEG)
- 4. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 5. TM 11490A-OR Operation Manual with Repair Parts List, Integrated Trailer-ECU-Generator (ITEG)
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

#### SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Integrated Trailer, Environmental Control Unit, Generator (ITEG) [B0018]

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI]) Parts for scheduled services

Fuel

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Assistance from a Refrigeration and Air Conditioning Technician (MOS 1161) is required for PMCS on the ECU portion of the ITEG.

1141-MANT-2244: Perform scheduled PMCS on MEPDIS

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: PMCS is Preventive Maintenance Checks and Services. MEPDIS is Power Distribution Panel, Power Distribution System.

**BILLETS:** Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With equipment, personnel, tools, forms, and references.

STANDARD: So equipment is checked/serviced per TM 09124A/09125A/09127A-14/1 and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

#### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review equipment technical manuals.
- 3. Review Service Request (SR).
- 4. Don Personal Protective Equipment (PPE).
- 5. Connect generator.
- 6. Contain (Lockout/Tagout) hazardous energy.
- 7. Inspect equipment.
- 8. Service equipment.
- 9. Document maintenance performed and deficiencies/discrepancies noted.

# PREREQUISITE EVENTS:

1141-ADMN-1001 1141-ADMN-1002 1141-ADMN-1006

1141-ADMN-1011

# RELATED EVENTS:

1141-ADMN-1007 1141-ADMN-1008

## REFERENCES:

- 1. SL-3-09124A/09125A/09127A Components List for Power Distribution System, Models PD-100, PD-030, and PD-015
- 2. SL-4-09124A/09125A/09127A Repair Parts for Power Distribution System, Models PD-100, PD-030, and PD-015
- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 4. TM 09124A/09125A/09127A-14/1 Operation and Maintenance for the Power Distribution System (PDIS), Models PD-100, PD-030, & PD-015
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Tool Kit, Lineman's Electrician (TK-1141) [B0062]
Power Distribution Panel, Power Distribution System (MEPDIS):
15kW PD-015 [B0595]
30kW PD-030 [B0600] - and/or 100kW PD-100 [B0605]
Generator

#### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])
Fuel

<u>UNITS/PERSONNEL</u>: Additional personnel (any MOS) will be required to safely move equipment components, if movement (unpacking/packing) of equipment is necessary for this event.

1141-MANT-2254: Perform scheduled PMCS on a MMG-25 20kW, 60Hz Generator Set

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

DESCRIPTION: PMCS is Preventive Maintenance Checks and Services.

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With equipment, tools, parts for scheduled services, forms, and references.

**STANDARD:** So equipment is checked and serviced per TM 11125A-OI and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review equipment technical manuals.
- 5. Review Service Request (SR).
- 6. Don Personal Protective Equipment (PPE).
- 7. Contain (Lockout/Tagout) hazardous energy.
- 8. Inspect equipment.
- 9. Service equipment.
- 10. Document maintenance performed and deficiencies/discrepancies noted.

### PREREQUISITE EVENTS:

1141-ADMN-1001 1141-ADMN-1002 1141-ADMN-1006 1141-ADMN-1011

### RELATED EVENTS:

1141-ADMN-1007 1141-ADMN-1008

### **REFERENCES:**

- 1. SL-3-6115 Components List for Generator Set, Diesel Engine Driven, Skid Mounted
- 2. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 3. TM 11125A-OI/A Operation/Maintenance Manual with Repair Parts List for Generator Set, Diesel Engine (Model MMG25)
- 4. TM 4700-15/1 Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE) Tool Kit, Lineman's Electrician (TK-1141) [B0062] MMG-25 20kW, 60Hz Generator Set [B0930]

#### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI]) Parts for scheduled services Fuel

1141-MANT-2332: Diagnose a CBL electrical malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 24 months

**DESCRIPTION:** A CBL is a Containerized Batch Laundry Unit.

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, a 120/208VAC 60Hz electrical power source, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective action(s) initiated.

#### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify GRAYWATER HAZARD(S).
- 3. Review LTI.
- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE).
- 6. Ensure equipment is grounded.
- 7. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 8. Check switches for correct settings.

- 9. Isolate fault from breaker box to washer/dryer.
- 10. Determine if component fault was caused by a defect elsewhere.
- 11. Determine echelon(s) of maintenance.
- 12. Document findings (complete LTI/update Service Request).
- 13. Order parts (if required).

### PREREQUISITE EVENTS:

1141-ADMN-1001 1141-ADMN-1002 1141-ADMN-1006

### RELATED EVENTS:

1141-ADMN-1008 1141-ADMN-1010 1141-ADMN-1011

### **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 4. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 5. TM 10-4630-206-12&P Operator and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Sewage Ejection Pump (SEP)
- 6. TM 11413A-OI/1 Operator/Maintenance Manual Instructions with Repair Parts and Special Tools List (RPSTL) for Containerized Batch Laundry
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)
Tool Kit, Lineman's Electrician (TK-1141) [B0062]
Faulty Containerized Batch Laundry (CBL) Unit [B0066] or components

MATERIAL: NAVMC 10560 (Worksheet for Preventive Maintenance and Technical
Inspection for Engineer Equipment [LTI])

OTHER SUPPORT REQUIREMENTS: 120/208VAC 60Hz electrical power source (normally a 100kW MEP-807A Tactical Quiet Generator)

# MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Assistance from an Engineer Equipment Electrical Systems Technician (MOS 1142) may be required to fully diagnose an electrical system malfunction. Assistance from a Water Support Technician (MOS 1171) may be required to check switches for correct settings.

1141-MANT-2344: Diagnose a MEPDIS malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: MEPDIS is a Power Distribution Panel, Power Distribution System

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective action(s) initiated.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review LTI.
- 3. Review equipment technical manuals.
- 4. Don Personal Protective Equipment (PPE).
- 5. Ensure equipment is grounded.
- 6. Ensure any hazardous energy is controlled (Lockout/Tagout).
- 7. Check switches for correct settings.
- 8. Isolate faulty component(s).
- 9. Determine if component fault was caused by a defect elsewhere.
- 10. Determine echelon(s) of maintenance.
- 11. Document findings (complete LTI/update Service Request).
- 12. Order parts (if required).

### PREREQUISITE EVENTS:

1141-ADMN-1001 1141-ADMN-1002 1141-ADMN-1006

### RELATED EVENTS:

1141-ADMN-1008 1141-ADMN-1010 1141-ADMN-1011

1141-MANT-2244

## REFERENCES:

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. SL-4-09124A/09125A/09127A Repair Parts for Power Distribution System, Models PD-100, PD-030, and PD-015
- 4. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 5. TM 09124A/09125A/09127A-14/1 Operation and Maintenance for the Power Distribution System (PDIS), Models PD-100, PD-030, & PD-015
- 6. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Faulty Power Distribution Panel, Power Distribution System (MEPDIS):

15kW PD-015 [B0595]

30kW PD-030 [B0600] - and/or -

100kW PD-100 [B0605]

MATERIAL: NAVMC 10560 (Worksheet for Preventive Maintenance and Technical

Inspection for Engineer Equipment [LTI])

1141-MANT-2402: Repair a general supply equipment electrical system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, tools, forms, and references.

**STANDARD:** So equipment functions/operates as specified in equipment's technical manuals and repairs are documented per TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review Supply Request (SR).
- 3. Inventory parts from layette.
- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE).
- 6. Ensure equipment is grounded.
- 7. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 8. Remove faulty part(s).
- 9. Prepare area (s) for new part(s).
- 10. Attach new part(s), making necessary adjustments.
- 11. Test repairs.
- 12. Document repairs.

# PREREQUISITE EVENTS:

1141-ADMN-1001 1141-ADMN-1002 1141-ADMN-1006 1141-ADMN-1008 1141-ADMN-1011

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 5. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Tool Kit, Lineman's Electrician (TK-1141) [B0062]
Degraded/deadlined piece of general supply equipment

### MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

1141-MANT-2444: Repair MEPDIS

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** MEPDIS is Power Distribution Panel, Power Distribution System.

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, tools, forms, and references.

**STANDARD:** So equipment functions/operates as specified in TM 09124A/09125A/09127A-14/1 and repairs are documented per TM 4700-15/1H.

# PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review Service Request (SR).
- 3. Inventory parts from layette.
- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE).
- 6. Ensure equipment is grounded.
- 7. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 8. Remove faulty part(s).
- 9. Prepare area(s) for new part(s).
- 10. Attach new part(s), making necessary adjustments.
- 11. Test repairs.
- 12. Document repairs.

# PREREQUISITE EVENTS:

1141-ADMN-1001 1141-ADMN-1002 1141-ADMN-1006 1141-ADMN-1008 1141-ADMN-1011 1141-MANT-2344

**RELATED EVENTS:** 1141-MANT-2244

#### REFERENCES:

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. SL-3-09124A/09125A/09127A Components List for Power Distribution System, Models PD-100, PD-030, and PD-015
- 4. SL-4-09124A/09125A/09127A Repair Parts for Power Distribution System, Models PD-100, PD-030, and PD-015

- 5. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 6. TM 09124A/09125A/09127A-14/1 Operation and Maintenance for the Power Distribution System (PDIS), Models PD-100, PD-030, & PD-015
- 7. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 8. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Degraded/deadlined Power Distribution Panel, Power Distribution System (MEPDIS):

15kW PD-015 [B0595]

30kW PD-030 [B0600] - and/or -

100kW PD-100 [B0605]

### MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

1141-XENG-2501: Determine electrical support requirements

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**BILLETS:** Electrician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a warning order, area map, equipment, materials, forms, and references.

STANDARD: So designated equipment and personnel will be supported.

### PERFORMANCE STEPS:

- 1. Review warning order and references.
- 2. Plan movement to possible electrical support site(s).
- 3. Move to a possible electrical support site.
- 4. Complete Identification Data on Electricity Smartcard.
- 5. Record site conditions on Electricity Smartcard.
- 6. Sketch proposed site layout on Electricity Smartcard.
- 7. Photograph site.
- 8. Verify completeness of smartcards.
- 9. Move to next possible source (repeating steps 3 through 9 as required).
- 10. Return from reconnaissance.
- 11. Identify equipment/personnel requiring electrical support.
- 12. Determine support requirements.
- 13. Submit initial list of estimated electrical equipment/personnel required to support requirements of warning order.

### RELATED EVENTS:

1141-ADMN-2022 1141-ADMN-2031 1141-XENG-2623

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. ATTP 5-0.1 Commander and Staff Officer Guide
- 3. MCRP 3-17.7K Theater of Operations Electrical Systems
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCRP 4-11.8A Marine Corps Field Feeding Program
- 6. MCWP 3-17.4 Engineer Reconnaissance
- 7. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 8. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 9. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 10. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 11. TM 5-811-1 Electric Power Supply and Distribution
- 12. TM 5-811-3 Electrical Design, Lightning and Static Electricity Protection

### SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Compass [K4222] Camera Calculator Multimeter [H7030] Tape measure

### MATERIAL:

Area topographical map(s)
Electricity Smartcard (Figure C-4 of MCWP 3-17.4)
Pens/pencils

OTHER SUPPORT REQUIREMENTS: Transportation (by vehicle or aircraft) will be required for access to prospective electrical support site(s).

<u>1141-XENG-2521</u>: Develop a field electrical support plan

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician, Section Head

**GRADES:** CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a warning order requiring a base camp(s), area map(s), area reconnaissance report(s), any environmental impact report(s), camp layout(s), and references.

**STANDARD:** So requirements of warning order are supported; with electrical power generation and distribution drawn on camp layout(s) and a Course of

Action (COA) established; and input provided for Annex D of the Operation Order.

### PERFORMANCE STEPS:

- Review warning order, map(s), reconnaissance report(s), camp layout(s), and references.
- 2. Identify equipment/personnel requiring electrical support.
- 3. Determine electrical power generation/distribution equipment requirements, selecting equipment sites.
- 4. Determine environmental impacts.
- 5. Plot generation sites on camp layout(s), making provision for traffic.
- 6. Identify potential impact of weather/climate on electrical power generation/distribution operations.
- 7. Determine risks, conducting operational risk assessments.
- 8. Identify "Off Limit" areas (i.e., generator sites, hazardous material sites, etc.).
- 9. Determine number and type of warning signs required.
- 10. Schedule Preventive Maintenance Checks and Services (PMCS).
- 11. Determine POL requirements.
- 12. Determine camouflage, concealment, and decoy requirements.
- 13. Determine security requirements.
- 14. Estimate man-hour requirements, determining number of electricians required to support the mission.
- 15. Establish operator schedules.
- 16. Estimate logistical support (truck, forklift, etc.) required.
- 17. Establish Bill of Materials (BOM) including security, camouflage, environmental, and safety items.
- 18. Generate work request(s) for any required construction.
- 19. Establish a Course of Action (COA).
- 20. Record requirements for input into Annex D of the Operation Order.
- 21. Brief electrical support plan (if required).

# PREREQUISITE EVENTS: 1141-XENG-2501

# RELATED EVENTS:

| 1141-XENG-1601 | 1141-XENG-1618 | 1141-XENG-1624 |
|----------------|----------------|----------------|
| 1141-XENG-2621 | 1141-XENG-2623 | 1141-XENG-2721 |
| 1141-XENG-2821 |                |                |

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. 29 CFR 1910.269 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 269 Electrical Power Generation, Transmission, and Distribution
- 3. 29 CFR 1910.301-399 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Subpart S, (Standard Numbers 301-399) Electrical
- 4. ATTP 5-0.1 Commander and Staff Officer Guide
- 5. FMFM 7-29 Mountain Operations
- 6. MCO 3000.18\_ Marine Corps Force Deployment Planning and Execution (FDP&E) Manual
- 7. MCO 3500.27\_ Operational Risk Management (ORM)
- 8. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 9. MCRP 3-17.7F Project Management

- 10. MCRP 3-17.7K Theater of Operations Electrical Systems
- 11. MCRP 3-17.7N Base Camps
- 12. MCRP 3-17B Engineer Forms and Reports
- 13. MCRP 3-35.1D Cold Region Operations
- 14. MCRP 4-11.8A Marine Corps Field Feeding Program
- 15. MCRP 4-11B Environmental Considerations
- 16. MCRP 5-12A Operational Terms and Graphics
- 17. MCWP 3-17 Engineering Operations
- 18. MCWP 3-17.4 Engineer Reconnaissance
- 19. MCWP 3-17.7 General Engineering
- 20. MCWP 3-35.5 Jungle Operations
- 21. MCWP 3-35.6 Desert Operations
- 22. MCWP 3-41.1 Rear Area Operations
- 23. MCWP 4-1 Logistics Operations
- 24. MCWP 4-11 Tactical-Level Logistics
- 25. MCWP 4-11.5 SeaBee Operations in the MAGTF
- 26. MCWP 5-1 Marine Corps Planning Process (MCPP)
- $27.\ \mathrm{NEC}\ (\mathrm{NFPA}\ 70)$  National Electrical Code by National Fire Protection Association
- 28. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 29. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 30. TM 5-811-1 Electric Power Supply and Distribution
- 31. TM 5-811-3 Electrical Design, Lightning and Static Electricity Protection
- 32. TM 5-811-7 Electrical Design, Cathodic Protection
- $33.\ \mathrm{TM}\ 9406-15\_$  Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

### MATERIAL:

Area topographical map(s)
Electric Smartcards (Figure C-4 of MCWP 3-17.4)
Area reconnaissance report(s)
Environmental impact report(s) (if any)
Camp layout(s)

1141-XENG-2561: Design an interior electrical wiring system

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Electrician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With construction plans for a structure, a list of electrical fixtures/appliances to be installed, local code requirements, and references.

STANDARD: Per the National Electric Code (NEC) (NFPA 70).

### PERFORMANCE STEPS:

- 1. Review construction plans, local code and references.
- 2. Review list of electrical fixtures/appliances to be installed.
- 3. Calculate general lighting load.
- 4. Identify power requirements.
- 5. Determine code requirements.
- 6. Size branch circuits.
- 7. Size over current protection devices.
- 8. Plot electrical symbols on construction plans.
- 9. Ensure interior electrical wiring system plan conforms to references and the building's requirements.
- 10. Establish a Bill of Materials (BOM), including safety items.
- 11. Establish a Course of Action (COA).

### **RELATED EVENTS:**

| 1141-XENG-1961 | 1141-XENG-2501 | 1141-XENG-2521 |
|----------------|----------------|----------------|
| 1141-XENG-2623 | 1141-XENG-2963 | 1141-XENG-2964 |
| 1141-YENG-2965 |                |                |

### **REFERENCES:**

- 1. ATTP 5-0.1 Commander and Staff Officer Guide
- 2. FM 5-553 General Drafting
- 3. MCRP 3-17.7F Project Management
- 4. MCRP 3-17.7K Theater of Operations Electrical Systems
- 5. MCRP 3-17.7M Construction Estimating
- 6. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 7. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 8. TM 5-704 Construction Print Reading in the Field
- 9. TM 5-811-1 Electric Power Supply and Distribution
- 10. TM 5-811-3 Electrical Design, Lightning and Static Electricity Protection
- 11. TM 5-811-7 Electrical Design, Cathodic Protection

### SUPPORT REQUIREMENTS:

**MATERIAL:** Construction plans

1141-XENG-2602: Construct a field expedient electrical distribution panel

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 24 months

**DESCRIPTION:** Due to the hazards involved, to both personnel and equipment, a field expedient electrical distribution panel should only be constructed by qualified personnel based on a design from a Utilities Officer or Utilities Chief approved by the commander.

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With a field electrical support plan, a field expedient

electrical distribution panel design approved by the commander, equipment, material, and references.

**STANDARD:** So unit's mission is supported per the commander's intent and finished field expedient distribution panel complies with all safety considerations in the design.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review electrical distribution panel design and approved risk assessment.
- 3. Review Bill of Materials (BOM).
- 4. Review references.
- 5. Reassess operational risk.
- 6. Don Personal Protective Equipment (PPE).
- 7. Prepare site(s) for distribution panel
- 8. Assemble panel, testing connections.
- 9. Install distribution cables.
- 10. Ground the panel.
- 11. Install safety signs and barriers.
- 12. Inspect/test (ring out) the panel.
- 13. Report any safety concerns.

### PREREQUISITE EVENTS:

| 1120-XENG-2522 | 1141-ADMN-1001 | 1141-MANT-1101 |
|----------------|----------------|----------------|
| 1141-XENG-1601 | 1141-XENG-1618 | 1141-XENG-1703 |
| 1169-XENG-2522 |                |                |

**RELATED EVENTS:** 1141-XENG-1624

### REFERENCES:

- 1. MCRP 3-17.7K Theater of Operations Electrical Systems
- 2. TC 11-6 Grounding Techniques
- 3. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 4. TM 5-690 Grounding and Bonding in Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) Facilities
- 5. TM 5-704 Construction Print Reading in the Field
- 6. TM 5-811-1 Electric Power Supply and Distribution
- 7. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Tool Kit, Lineman's Electrician (TK-1141) [B0062]
Tool Kit, Intermediate Level Electrician's (TK-1141/1) [B7900]
Earthmoving equipment (if required to prepare site(s))

### MATERIAL:

Electrical support plan with established Course of Action (COA) Approved field expedient electrical distribution panel design Bill of Materials (BOM) Warning signs

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Due to the hazards involved, to both personnel and equipment, a field expedient electrical distribution panel should only be constructed by qualified personnel based on a design from a Utilities Officer or Utilities Chief approved by the commander.

1141-XENG-2603: Splice a field wire connection

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With equipment, material, and references.

<u>STANDARD</u>: So electrical continuity is established with tensile strength required by the application.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review references.
- 3. Determine type of splice required.
- 4. Don Personal Protective Equipment (PPE).
- 5. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 6. Strip wire(s).
- 7. Construct splice.
- 8. Test splice.
- 9. Insulate bare wires (if required by application).

## PREREQUISITE EVENTS:

1141-ADMN-1001 1141-ADMN-1002

### RELATED EVENTS:

1141-XENG-1961 1141-XENG-1962 1142-MANT-1108

1161-MANT-1108

### **REFERENCES:**

- 1. MCRP 3-17.7K Theater of Operations Electrical Systems
- 2. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 3. TM 2000-15/4 Power System Reference Manual
- 4. TM 5-811-1 Electric Power Supply and Distribution

### SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)
Tool Kit, Lineman's Electrician (TK-1141) [B0062]

### MATERIAL:

Wire

Connector(s) (if required)
Electrical tape (if required)

1141-XENG-2621: Direct field electrical power generation/distribution system installation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, electrical support plan and established Course of Action (COA), camp layout, equipment, personnel, material, and references.

**STANDARD:** So unit's mission is safely supported in accordance with the Operation Order.

### PERFORMANCE STEPS:

- 1. Review Operation Order, electrical support plan, and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Review equipment technical manuals.
- 5. Brief installation crew.
- 6. Supervise electrical power generation equipment installation.
- 7. Supervise electrical power distribution system installation.
- 8. Inspect installed field electrical power generation/distribution system.
- 9. Inspect equipment/system grounding.
- 10. Correct discrepancies.

PREREQUISITE EVENTS: 1141-XENG-2521

### RELATED EVENTS:

| 1141-XENG-1601 | 1141-XENG-1618 | 1141-XENG-1624 |
|----------------|----------------|----------------|
| 1141-XENG-1795 | 1141-XENG-2602 | 1141-XENG-2603 |
| 1141-XENG-2622 | 1141-XENG-2623 | 1141-XENG-2694 |
| 1141-XENG-2695 | 1141-XENG-2696 | 1141-XENG-2721 |
| 1141-XENG-2821 |                |                |

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. FM 3-34.480 Engineer Prime Power Operations
- 3. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 4. MCRP 3-17.7F Project Management
- 5. MCRP 3-17.7K Theater of Operations Electrical Systems
- 6. MCRP 3-17.7N Base Camps
- 7. MCRP 4-11B Environmental Considerations
- 8. MCWP 4-11.5 Seabee Operations in the MAGTF

9. TM 5-811-1 Electric Power Supply and Distribution 10. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

### SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE) Tool Kit, Lineman's Electrician (TK-1141) [B0062] Climber's Set, Tree and Pole (TK-1141/C) [B0069] Tool Kit, Intermediate Level Electricians (I-Level Tool Kit) (TK-1141/1) [B7900] Forklift (with capacity to lift generators and distribution panels) Earthmoving equipment (if required to prepare site(s)) Generator(s) (size and quantity designated by electrical support plan) Ground Rod(s), GP-16 [H7213] - and/or -Grounding Kit, MK-2551A/U [H7255] Power Distribution Panel, Mobile Electric Power Distribution System Replacement (MEPDIS-R): 5kW Indoor [B0027] 5kW Outdoor [B0028] 15kW [B0029] 30kW [B0030] 100kW [B0031] - and/or -300kW [B0032] (Sizes and quantities as designated by the electrical support plan)

#### MATERIAL:

Electrical support plan with established Course of Action (COA)
Spill containment materials
Warning signs
Water (if needed)
Metal Plates (if needed)
Chemicals (if needed)
Magnesium sulfate (Epsom salts)
Copper sulfate (blue vitriol)
Calcium chloride
Sodium chloride (common table salt) - or Potassium nitrate (saltpeter)

### UNITS/PERSONNEL:

MOS 1141 (Electrician) (quantity designated by electrical support plan) MOS 1345 (Engineer Equipment Operator) to prepare site(s) and move equipment

#### **MISCELLANEOUS:**

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Only licensed Marines (MOS 1141) will install/operate MEPDIS-R Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for system installation

**SPECIAL PERSONNEL CERTS:** Personnel must be licensed MOS 1141 electricians to install and operate MEPDIS-R [B0027, B0028, B0029, B0030, B0031 and

B0032].

1141-XENG-2622: Monitor ground test set measurements

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** At a site supported by an established electrical power generation and distribution system, with a ground test set, test set measurements, and references.

**STANDARD:** So a safe ground for supported personnel and equipment is maintained.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Determine grounding electrode/system resistance (ohms) to ground requirements for electrical equipment/system.
- 3. Review ground test set measurement reports.
- 4. Identify potential impact of weather (humidity/temperature) on grounding system.
- 5. Direct improvements/upgrades to grounding system as necessary.

# RELATED EVENTS:

1141-XENG-1601 1141-XENG-1703 1141-XENG-2623 1141-XENG-2721

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. 29 CFR 1910.269 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 269 Electrical Power Generation, Transmission, and Distribution
- 3. MCRP 3-17.7K Theater of Operations Electrical Systems
- 4. MCRP 4-11B Environmental Considerations
- 5. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 6. SL-3-10069A Components List for Ohmmeter (Earth Ground Resistance Tester), Model R1L-C
- 7. SL-3-10139A Components List for Grounding Kit, MK-2551A/U
- 8. SL-3-11509A Components List for Tool Kit, Lineman's Electrician (TK-1141)
- 9. TC 11-6 Grounding Techniques
- 10. TM 10069A-14 Operation and Maintenance Instructions with Illustrated Parts Breakdown for Ground Resistance Ohmmeter Model R1L-C
- 11. TM 11509A-OR Users Manual for Model i1000s AC Current Probe for Oscilloscopes  $\,$
- 12. TM 11-5820-1118-13&P Operator and Field Maintenance Manual Including Repair Parts and Special Tools List for Grounding Kit, MK-2551A/U
- 13. TM 5-690 Grounding and Bonding in Command, Control, Communications,

Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) Facilities 14. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Ground Rod(s), GP-16 [H7213] - and/or 
Grounding Kit, MK-2551A/U [H7255]

Ohmmeter, Earth Ground Resistance Tester, Model R1L-C [A7059]

#### MATERIAL:

Water (if needed)
Metal Plates (if needed)
Chemicals (if needed)
Magnesium sulfate (Epsom salts)
Copper sulfate (blue vitriol)
Calcium chloride
Sodium chloride (common table salt) - or Potassium nitrate (saltpeter)

1141-XENG-2623: Balance an electrical load

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Electrician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a field electrical power generation and distribution system, system plans, a requirement for additional load(s), and references.

**STANDARD:** So electrical power generation and distribution system is balanced to within 10% of connected load.

# PERFORMANCE STEPS:

- 1. Review system plan.
- 2. Examine distribution system to determine power consumption of phases and components.
- 3. Ensure power is measured accurately on all phases.
- 4. Ensure calculation of percent of unbalance is correct.
- 5. Examine plan for redistribution of load(s).
- 6. Ensure power is measured accurately on all phases after redistribution.
- 7. Ensure calculation of percent of balance is correct after redistribution.

### RELATED EVENTS:

| 1141-XENG-1601 | 1141-XENG-1618 | 1141-XENG-1624 |
|----------------|----------------|----------------|
| 1141-XENG-2501 | 1141-XENG-2521 | 1141-XENG-2561 |
| 1141-XENG-2621 | 1141-XENG-2622 |                |

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCRP 3-17.7K Theater of Operations Electrical Systems
- 3. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 4. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 5. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 6. TM 5-811-1 Electric Power Supply and Distribution

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Tool Kit, Lineman's Electrician (TK-1141) [B0062]

MATERIAL: Electrical support plan

1141-XENG-2694: Climb a pole/tree

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With a requirement to establish an overhead electrical power distribution system, equipment, material, and references.

<u>STANDARD</u>: To the height designated for the distribution system, circumnavigating the pole/tree 360 degrees (as necessary) while installing overhead distribution equipment/wiring, and descending.

# PERFORMANCE STEPS:

- 1. Inspect pole/tree.
- 2. Put on required equipment.
- 3. Climb pole/tree.
- 4. Belt in.
- 5. Perform required work (circumnavigating pole/tree as necessary).
- 6. Unbelt.
- 7. Descend pole/tree.

### PREREQUISITE EVENTS:

1141-ADMN-1001 1141-ADMN-1002

# RELATED EVENTS:

| 1141-ADMN-2032 | 1141-XENG-1601 | 1141-XENG-1618 |
|----------------|----------------|----------------|
| 1141-XENG-1624 | 1141-XENG-1961 | 1141-XENG-2695 |
| 1141-XENG-2696 |                |                |

#### REFERENCES:

- 1. 29 CFR 1910.269 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 269 Electrical Power Generation, Transmission, and Distribution
- 2. MCRP 3-17.7K Theater of Operations Electrical Systems
- 3. MCRP 3-17.7N Base Camps
- 4. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 5. SL-3-11390A Components List for Tool Kit, Intermediate Level Electricians (I-Level Tool Kit)(TK-1141/1)
- 6. SL-3-11418A Components List for Climber's Set, Tree and Pole (TK-1141/C)
- 7. SL-3-11509A Components List for Tool Kit, Lineman's Electrician (TK-1141)
- 8. TM 11509A-OR Users Manual for Model i1000s AC Current Probe for Oscilloscopes
- 9. TM 2000-15/4 Power System Reference Manual
- 10. TM 5-811-1 Electric Power Supply and Distribution
- $11.\ \text{TM } 9406-15\_$  Grounding Procedures for Electromagnetic Interference Control and Safety

### SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Climber's Set, Tree and Pole (TK-1141/C) [B0069]

Tool Kit, Intermediate Level Electricians (I-Level Tool Kit) (TK-1141/1)

[B7900]

### MATERIAL:

Wire

Insulators

1141-XENG-2695: Construct an overhead electrical power distribution system

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**BILLETS:** Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**STANDARD:** So unit's mission is safely supported in accordance with the Operation Order.

# PERFORMANCE STEPS:

- 1. Review Operation Order, electrical support plan and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.

- 4. Review references.
- 5. Set poles (as required).
- 6. Install crossarms, brackets and insulators (as required).
- 7. String conductors (wire).
- 8. Tension conductors, leaving required sag (to +/- 10%).
- 9. Install guys, anchors and push braces (as needed).
- 10. Install lightning arresters (as needed).
- 11. Install and test pole grounds (as required).
- 12. Post safety/warning signs.
- 13. Inspect installed overhead electrical power distribution system.
- 14. Connect distribution system to electrical power source(s) and panel(s)/service(s).
- 15. Test system.
- 16. Correct discrepancies.

### PREREQUISITE EVENTS:

| EKRKEĞOTOTIE EARMID. |                |                |
|----------------------|----------------|----------------|
| 1141-ADMN-1001       | 1141-ADMN-1002 | 1141-XENG-2501 |
| 1141-XENG-2521       | 1141-XENG-2694 |                |
|                      |                |                |
| RELATED EVENTS:      |                |                |
| 1141-ADMN-1003       | 1141-ADMN-2032 | 1141-XENG-1601 |
| 1141-XENG-1618       | 1141-XENG-1624 | 1141-XENG-1961 |
| 1141-XENG-2602       | 1141-XENG-2603 | 1141-XENG-2623 |
| 1141-XENG-2696       |                |                |

#### REFERENCES:

- 1. 29 CFR 1910.269 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 269 Electrical Power Generation, Transmission, and Distribution
- 2. 29 CFR 1910.301-399 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Subpart S, (Standard Numbers 301-399) Electrical
- 3. DoDD 5100.46 Foreign Disaster Relief
- 4. DODI 2205.2 Humanitarian and Civic Assistance (HCA) Activities
- 5. FM 3-34.480 Engineer Prime Power Operations
- 6. MCO 3500.27\_ Operational Risk Management (ORM)
- 7. MCRP 3-17.7F Project Management
- 8. MCRP 3-17.7K Theater of Operations Electrical Systems
- 9. MCRP 3-17.7N Base Camps
- 10. MCRP 4-11B Environmental Considerations
- 11. MCWP 3-41.1 Rear Area Operations
- 12. MCWP 4-11.5 SeaBee Operations in the MAGTF
- 13. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- $14.\ \mathrm{SL-3-10069A}$  Components List for Ohmmeter (Earth Ground Resistance Tester), Model R1L-C
- 15. SL-3-10139A Components List for Grounding Kit, MK-2551A/U
- 16. SL-3-11390A Components List for Tool Kit, Intermediate Level Electricians (I-Level Tool Kit)(TK-1141/1)
- 17. SL-3-11418A Components List for Climber's Set, Tree and Pole (TK-1141/C)
- 18. SL-3-11509A Components List for Tool Kit, Lineman's Electrician (TK-1141)
- 19. TC 11-6 Grounding Techniques
- $20.\ \text{TM}\ 10069A-14$  Operation and Maintenance Instructions with Illustrated Parts Breakdown for Ground Resistance Ohmmeter Model R1L-C

- 21. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- $22.\ \mathrm{TM}\ 11509\mathrm{A-OR}\ \mathrm{Users}\ \mathrm{Manual}\ \mathrm{for}\ \mathrm{Model}\ \mathrm{i}1000\mathrm{s}\ \mathrm{AC}\ \mathrm{Current}\ \mathrm{Probe}\ \mathrm{for}\ \mathrm{Oscilloscopes}$
- 23. TM 11-5820-1118-13&P Operator and Field Maintenance Manual Including Repair Parts and Special Tools List for Grounding Kit, MK-2551A/U
- 24. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 25. TM 2000-15/4 Power System Reference Manual
- 26. TM 5-690 Grounding and Bonding in Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) Facilities 27. TM 5-811-1 Electric Power Supply and Distribution
- $28.\ \text{TM}\ 9406-15\_$  Grounding Procedures for Electromagnetic Interference Control and Safety

### SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Climber's Set, Tree and Pole (TK-1141/C) [B0069]

Tool Kit, Intermediate Level Electricians (I-Level Tool Kit) (TK-1141/1) [B7900]

Generator(s) (size and quantity designated by electrical support plan)

Ground Rod(s), GP-16 [H7213] - and/or -

Grounding Kit, MK-2551A/U [H7255]

Ohmmeter, Earth Ground Resistance Tester, Model R1L-C [A7059]

#### MATERIAL:

Electrical support plan with established Course of Action (COA)

Poles

Crossarms, braces and insulators

Conductors (wire)

Guys and anchors

Warning signs

Busbar (if required by electrical support plan)

Water (if needed)

Metal Plates (if needed)

Chemicals (if needed)

Magnesium sulfate (Epsom salts)

Copper sulfate (blue vitriol)

Calcium chloride

Sodium chloride (common table salt) - or -

Potassium nitrate (saltpeter)

# UNITS/PERSONNEL:

MOS 1141 (Electrician) (quantity designated by electrical support plan) MOS 1345 (Engineer Equipment Operator) to prepare site(s) and move equipment

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for system installation.

1141-XENG-2696: Bury electrical power distribution cable

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, electrical support plan and established Course of Action (COA), camp layout, equipment, personnel, material, and references.

<u>STANDARD</u>: So unit's mission is safely supported in accordance with the Operation Order.

### PERFORMANCE STEPS:

- 1. Review Operation Order, electrical support plan and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Review references.
- 5. Identify subsurface obstructions (gas mains, telephone duct lines, sewer mains, water mains, steam pipes and service laterals/connections).
- 6. Make test borings.
- 7. Dig trenches.
- 8. Install duct system, manholes and service boxes (as required).
- 9. Lay/run cable, making service connections.
- 10. Connect distribution system to electrical power source(s).
- 11. Inspect installed underground electrical power distribution system.
- 12. Test system.
- 13. Correct discrepancies.
- 14. Fill in trenches.
- 15. Post safety/warning signs.

# PREREQUISITE EVENTS:

| 1141-ADMN-1001 | 1141-ADMN-1002 | 1141-XENG-2501 |
|----------------|----------------|----------------|
| 1141-XENG-2521 |                |                |

### RELATED EVENTS:

| 1141-XENG-1601 | 1141-XENG-1618 | 1141-XENG-1624 |
|----------------|----------------|----------------|
| 1141-XENG-1961 | 1141-XENG-2602 | 1141-XENG-2603 |
| 1141-XENG-2623 | 1141-XENG-2695 | 1141-XENG-2963 |

#### REFERENCES:

- 1. 29 CFR 1910.269 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 269 Electrical Power Generation, Transmission, and Distribution
- 2. 29 CFR 1910.301-399 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Subpart S, (Standard Numbers 301-399) Electrical
- 3. DoDD 5100.46 Foreign Disaster Relief
- 4. DODI 2205.2 Humanitarian and Civic Assistance (HCA) Activities
- 5. FM 3-34.480 Engineer Prime Power Operations

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- 6. MCO 3500.27\_ Operational Risk Management (ORM)
- 7. MCRP 3-17.7F Project Management
- 8. MCRP 3-17.7K Theater of Operations Electrical Systems
- 9. MCRP 3-17.7N Base Camps
- 10. MCRP 4-11B Environmental Considerations
- 11. MCWP 3-41.1 Rear Area Operations
- 12. MCWP 4-11.5 SeaBee Operations in the MAGTF
- 13. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 14. SL-3-11390A Components List for Tool Kit, Intermediate Level Electricians (I-Level Tool Kit)(TK-1141/1)
- 15. SL-3-11509A Components List for Tool Kit, Lineman's Electrician (TK-1141)
- 16. TC 11-6 Grounding Techniques
- 17. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 18. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 19. TM 2000-15/4 Power System Reference Manual
- 20. TM 5-690 Grounding and Bonding in Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) Facilities 21. TM 5-811-1 Electric Power Supply and Distribution
- $22.\ {
  m TM}\ 9406-15\_$  Grounding Procedures for Electromagnetic Interference Control and Safety

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Tool Kit, Intermediate Level Electricians (I-Level Tool Kit) (TK-1141/1) [B7900]

Generator(s) (size and quantity designated by electrical support plan) Backhoe

#### MATERIAL:

Electrical support plan with established Course of Action (COA) Manholes, ducts and service boxes (if required) Conductors (wire) Warning signs

### UNITS/PERSONNEL:

MOS 1141 (Electrician) (quantity designated by electrical support plan) MOS 1345 (Engineer Equipment Operator) to operate backhoe

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for system installation.

1141-XENG-2718: Operate an ITEG

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** ITEG is Integrated Trailer/ECU/Generator.

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With equipment, material, and references.

<u>STANDARD</u>: Per TM 11490A-OR, documenting operation in accordance with TM 4700-15/1H and complying with unit's mission requirements.

#### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review references.
- 5. Assess operational risk.
- 6. Don Personal Protective Equipment (PPE).
- 7. Unpack ITEG.
- 8. Place applicable environmental safeguards in place.
- 9. Set up ITEG.
- 10. Post safety/warning signs.
- 11. Ensure equipment is grounded.
- 12. Perform before operation checks.
- 13. Start generator.
- 14. Contact load.
- 15. Perform during operation checks/services.
- 16. Maintain equipment logs.
- 17. Shut down equipment per operational situation.
- 18. Perform after operation checks.
- 19. Document equipment operation.
- 20. Pack out equipment for movement/retrograde.

PREREQUISITE EVENTS: 1141-ADMN-1001

### RELATED EVENTS:

1141-ADMN-1009 1141-MANT-2218

#### REFERENCES:

- 1. MCRP 3-17.7K Theater of Operations Electrical Systems
- 2. SL-3-11490A Components List for Integrated Trailer, Environmental Control Unit, Generator (ITEG)
- 3. TM 11490A-OR Operation Manual with Repair Parts List, Integrated Trailer-ECU-Generator (ITEG)
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Integrated Trailer, Environmental Control Unit, Generator (ITEG) [B0018]

#### MATERIAL:

NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)
Fuel

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: All operators of the Integrated Trailer, Environmental Control Unit, Generator (ITEG) [B0018] will need to be licensed through an authorized licensing program in the Total Force.

**SPECIAL PERSONNEL CERTS:** Operators must be licensed to operate an Integrated Trailer, Environmental Control Unit, Generator (ITEG) [B0018].

<u>1141-XENG-2721</u>: Direct field electrical power generation/distribution system operation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Electrician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, camp layout, electrical power generation/distribution system, operators, and references.

STANDARD: So unit's mission is safely supported in accordance with the Operation Order.

# PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Inspect installed electrical power generation/distribution system.
- 3. Review safety concerns.
- 4. Review environmental concerns.
- 5. Establish operator schedule.
- 6. Brief personnel.
- 7. Supervise operation of generator sets.
- 8. Supervise operation of floodlight sets.
- 9. Supervise operation of load banks.
- 10. Supervise electrical distribution system.
- 11. Ensure electrical loads are balanced.
- 12. Supervise electrical power generation/distribution system operator maintenance.
- 13. Ensure records/reports are updated/completed.

### PREREQUISITE EVENTS:

1141-XENG-2621 1141-XENG-2622

### RELATED EVENTS:

1141-XENG-2521 1169-XENG-2721

### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCRP 3-17.7K Theater of Operations Electrical Systems
- 3. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 4. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures
- 6. TM 5-811-1 Electric Power Supply and Distribution
- 7. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

### SUPPORT REQUIREMENTS:

UNITS/PERSONNEL: MOS 1141 (Electricians) to operate/maintain equipment and
system

1141-XENG-2737: Operate a 200kW Tactical Generator Set

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** At an established generator site, with equipment, material, and references.

**STANDARD:** Per TM 11598A-OR, documenting operation in accordance with TM 4700-15/1H and complying with unit's mission requirements.

# PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review references.
- 5. Reassess operational risk, ensuring warning signs are posted.
- 6. Don Personal Protective Equipment (PPE).
- 7. Ensure equipment is grounded.
- 8. Perform before operation checks, including all electrical power cable connections.
- 9. Start up generator.
- 10. Check switches/gauges for correct settings.
- 11. Contact load.
- 12. Perform during operation checks/services.
- 13. Maintain equipment logs.
- 14. Shut down equipment per operational situation.
- 15. Perform after operation checks.
- 16. Document equipment operation.
- 17. Pack out equipment for movement/retrograde.

# PREREQUISITE EVENTS: 1141-ADMN-1001

### RELATED EVENTS:

| 1141-ADMN-1009 | 1141-MANT-1251 | 1141-XENG-1751 |
|----------------|----------------|----------------|
| 1141-XENG-1752 | 1141-XENG-1753 | 1141-XENG-1754 |
| 1141-XENG-1757 | 1141-XENG-1763 | 1141-XENG-1765 |
| 1141-XENG-2755 |                |                |

#### REFERENCES:

- 1. SL-3-6115 Components List for Generator Set, Diesel Engine Driven, Skid Mounted
- 2. TM 11598A-OR Operator's Manual for Generator Set, Skid Mounted, Tactical Quiet, 200kW, 50/60Hz, MEP-809A
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

- Personal Protective Equipment (PPE)
- Tool Kit, Lineman's Electrician (TK-1141) [B0062]
- MEP-809A 200kW 50/60Hz Tactical Quiet Generator Set [B0083]

#### MATERIAL:

NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)
Fuel

### **MISCELLANEOUS:**

ADMINISTRATIVE INSTRUCTIONS: Graduates of the Basic Electrician Course (CID: M0311B2) ARE NOT licensed operators of the MEP-809A 200kW 50/60Hz Tactical Quiet Generator Set [B0083]. They will need to be licensed on the MEP-809A through an authorized licensing program in the Total Force.

**SPECIAL PERSONNEL CERTS:** Only Electricians (MOS 1141) will be licensed to operate a MEP-809A 200kW 50/60Hz Tactical Quiet Generator Set [B0083].

1141-XENG-2750: Operate a 2kW 60Hz Tactical Generator Set

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With equipment, material, and references.

**STANDARD:** Per TM 9-6115-673-13&P, documenting operation in accordance with TM 4700-15/1H and complying with unit's mission requirements.

### PERFORMANCE STEPS:

NAVMC 3500.12B 22 Jan 2014

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review references.
- 5. Don Personal Protective Equipment (PPE).
- 6. Set up generator set, ensuring it is grounded.
- 7. Perform before operation checks.
- 8. Start generator set.
- 9. Contact load.
- 10. Perform during operation checks/services.
- 11. Maintain equipment logs.
- 12. Shut down generator set per operational situation.
- 13. Perform after operation checks.
- 14. Document equipment operation.
- 15. Pack out equipment for movement/retrograde.

PREREQUISITE EVENTS: 1141-ADMN-1001

#### RELATED EVENTS:

1141-ADMN-1009 1141-MANT-1251

## **REFERENCES:**

- 1. SL-3-6115 Components List for Generator Set, Diesel Engine Driven, Skid Mounted
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures
- 3. TM 9-6115-673-13&P Operator and Field Maintenance Manual (Including Repair Parts and Special Tools List) for 2kW Military Tactical Generator Sets, 120VAC, 60Hz, MEP-531A

# SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Tool Kit, Lineman's Electrician (TK-1141) [B0062]
MEP-531A 2kW 60Hz Tactical Generator Set [B0980]

### MATERIAL:

NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)
Fuel

# MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Graduates of the Basic Electrician Course (CID: M0311B2) ARE NOT licensed to operate the MEP-531A 2kW 60Hz Generator Set [B0980]. All electricians/operators will need to be licensed through an authorized licensing program in the Total Force.

**SPECIAL PERSONNEL CERTS:** Operators must be licensed to operate the MEP-531A 2kW 60Hz Generator Set [B0980].

1141-XENG-2755: Operate a MMG-25 20kW 60Hz Generator Set

NAVMC 3500.12B 22 Jan 2014

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** At a Combat Operations Center (COC), with equipment, material, and references.

**STANDARD:** Per TM 11125A-OI/A, documenting operation in accordance with  $\frac{1}{2}$  TM 4700-15/1H and complying with unit's mission requirements.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review references.
- 5. Don Personal Protective Equipment (PPE).
- 6. Set up generator set, ensuring it is grounded.
- 7. Perform before operation checks.
- 8. Start generator set.
- 9. Contact load.
- 10. Perform during operation checks/services.
- 11. Maintain equipment logs.
- 12. Shut down generator set per operational situation.
- 13. Perform after operation checks.
- 14. Document equipment operation.
- 15. Pack out equipment for movement/retrograde.

PREREQUISITE EVENTS: 1141-ADMN-1001

### RELATED EVENTS:

1141-ADMN-1009 1141-MANT-1251 1141-XENG-2718

### **REFERENCES:**

- 1. CG MarCorSysCom msg R011721Z May 07 Maintenance Advisory Message (MAM): Pulse Solar Charger (PSC) Installation on USMC Tactical Generator Fleet
- 2. SL-3-6115 Components List for Generator Set, Diesel Engine Driven, Skid Mounted
- 3. TM 11125A-OI/A Operation/Maintenance Manual with Repair Parts List for Generator Set, Diesel Engine (Model MMG25)
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Tool Kit, Lineman's Electrician (TK-1141) [B0062]
MMG-25 20kW 60Hz Generator Set [B0930]

# MATERIAL:

NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service

Record) Fuel

# MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Graduates of the Basic Electrician Course (CID: M0311B2) ARE NOT licensed to operate the MMG-25 20kW 60Hz Generator Set [B0930]. All electricians/operators will need to be licensed through an authorized licensing program in the Total Force.

**SPECIAL PERSONNEL CERTS:** Operators must be licensed to operate the MMG-25 20kW 60Hz Generator Set [B0930].

<u>1141-XENG-2821</u>: Direct field electrical power generation/distribution system recovery

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Electrician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, camp layout, equipment, personnel, and references.

**STANDARD:** So equipment is available for redeployment and equipment records are updated.

## PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Brief recovery crew.
- 5. Supervise distribution system recovery.
- 6. Supervise generator recovery.
- 7. Ensure Limited Technical Inspections (LTI) are conducted/recorded.
- 8. Ensure SL-3/BII inventories are conducted/recorded.
- 9. Resolve discrepancies.

### **RELATED EVENTS:**

| 1141-ADMN-1007 | 1141-ADMN-1008 | 1141-ADMN-1009 |
|----------------|----------------|----------------|
| 1141-ADMN-1011 | 1141-XENG-1601 | 1141-XENG-1618 |
| 1141-XENG-1624 | 1141-XENG-2621 | 1141-XENG-2721 |

#### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCRP 4-11.4A Recovery and Battle Damage Assessment and Repair
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures
- 4. TM 9-6115-624-BD Battlefield Damage Assessment and Repair for Generators

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Climber's Set, Tree and Pole (TK-1141/C) [B0069]

Tool Kit, Intermediate Level Electricians (I-Level Tool Kit) (TK-1141/1)

[B7900]

Forklift (with capacity to lift generators and distribution panels)

#### MATERIAL:

Electrical support plan with established Course of Action (COA) Spill containment materials

#### UNITS/PERSONNEL:

MOS 1141 (Electrician) (quantity designated by electrical support plan) MOS 1345 (Engineer Equipment Operator) to move equipment

1141-XENG-2963: Install conduit in a permanent structure

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Electrician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** At a structure requiring electrical work, with an interior electrical plan, a Bill of Materials (BOM), tools, and references.

**STANDARD:** So structure will be wired per the interior electrical plan and the National Electric Code (NEC) (NFPA 70).

# PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review Bill of Materials (BOM).
- 3. Inventory BOM.
- 4. Review references.
- 5. Review electrical plan.
- 6. Assess risks (ORM).
- 7. Don Personal Protective Equipment (PPE).
- 8. Bend conduit.
- 9. Place conduit in structure.
- 10. Inspect installation.

PREREQUISITE EVENTS: 1141-ADMN-1001

### RELATED EVENTS:

1141-ADMN-1002 1141-MANT-1101 1141-XENG-1961 1141-XENG-1962

# REFERENCES:

1. MCRP 3-17.7K Theater of Operations Electrical Systems

- 2. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 3. SL-3-11390A Components List for Tool Kit, Intermediate Level Electricians (I-Level Tool Kit)(TK-1141/1)
- 4. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 5. TM 5-704 Construction Print Reading in the Field

### SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Intermediate Level Electrician's (TK-1141/1) [B7900]

MATERIAL: Bill of Materials (BOM), with conduit

 $\underline{\text{1141-XENG-2964}}$ : Inspect the interior electrical wiring system of a permanent structure

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Electrician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** At a structure, with construction blueprints, tools, and references.

<u>STANDARD</u>: So electrical wiring system compliance with the National Electric Code (NEC) (NFPA 70) is determined.

### PERFORMANCE STEPS:

- 1. Review applicable section(s) of references.
- 2. Review blueprints.
- 3. Inspect wiring.
- 4. Inspect devices/fixtures.
- 5. Inspect service equipment.
- 6. Record/report discrepancies (if any).

# RELATED EVENTS:

1141-XENG-1961 1141-XENG-1962

#### REFERENCES:

- 1. MCRP 3-17.7K Theater of Operations Electrical Systems
- 2. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 3. TM 5-704 Construction Print Reading in the Field
- 4. TM 5-811-1 Electric Power Supply and Distribution
- 5. TM 5-811-3 Electrical Design, Lightning and Static Electricity Protection
- 6. TM 5-811-7 Electrical Design, Cathodic Protection
- 7. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

### SUPPORT REQUIREMENTS:

EQUIPMENT: Tool Kit, Intermediate Level Electrician's (TK-1141/1) [B7900]

1141-XENG-2965: Direct interior electrical wiring system installation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Electrician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: At a structure requiring electrical work, with an interior electrical plan, a Bill of Materials (BOM), personnel, tools, and references.

**STANDARD:** So structure is wired per the interior electrical plan, in compliance with the National Electric Code (NEC) (NFPA 70).

#### PERFORMANCE STEPS:

- 1. Review blueprints, electrical plan and Bill of Materials (BOM).
- 2. Determine safety/code requirements.
- 3. Brief installation crew.
- 4. Inventory BOM.
- 5. Supervise wire runs (and conduit installation, if applicable).
- 6. Supervise installation of devices/fixtures.
- 7. Check service equipment.
- 8. Test the installed electrical wiring system.

### RELATED EVENTS:

1141-XENG-1961 1141-XENG-1962 1141-XENG-2963 1141-XENG-2965

### **REFERENCES:**

- 1. MCRP 3-17.7K Theater of Operations Electrical Systems
- 2. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 3. TM 5-704 Construction Print Reading in the Field
- 4. TM 5-811-1 Electric Power Supply and Distribution
- 5. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

#### SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Tool Kit, Intermediate Level Electrician's (TK-1141/1) [B7900]

MATERIAL: Bill of Materials (BOM)

UNITS/PERSONNEL: MOS 1141 (Electrician)

1141-XENG-2966: Direct interior electrical wiring system repairs

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Electrician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: At a structure with a faulty electrical system, a report detailing specific repairs to be made, a Bill of Materials (BOM), tools, and references.

**STANDARD:** So repairs detailed on the report are made and system is brought into compliance with the National Electric Code (NEC) (NFPA 70).

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review electrical report detailing required repairs.
- 3. Review references, determining safety/code requirements.
- 4. Assess risks (ORM).
- 5. Review blueprints, electrical plan and Bill of Materials (BOM).
- 6. Brief repair crew.
- 7. Inventory BOM.
- 8. Ensure hazardous energy is controlled (Lockout/Tagout).
- 9. Supervise wire repairs (and conduit repairs, if applicable).
- 10. Supervise replacement of defective devices/fixtures.
- 11. Check service equipment.
- 12. Test the repaired electrical wiring system.

# PREREQUISITE EVENTS:

1141-ADMN-1001

| RELATED EVENTS: |                |                |
|-----------------|----------------|----------------|
| 1141-XENG-1601  | 1141-XENG-1961 | 1141-XENG-1962 |
| 1141-XENG-2501  | 1141-XENG-2561 | 1141-XENG-2963 |
| 1141-XENG-2965  | 1169-XENG-2966 |                |

1141-ADMN-1002

#### **REFERENCES:**

- 1. MCRP 3-17.7F Project Management
- 2. MCRP 3-17.7K Theater of Operations Electrical Systems
- 3. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 4. TC 11-6 Grounding Techniques
- 5. TM 5-690 Grounding and Bonding in Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) Facilities

1141-XENG-2964

- 6. TM 5-704 Construction Print Reading in the Field
- 7. TM 5-811-1 Electric Power Supply and Distribution
- 8. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)
Tool Kit, Lineman's Electrician (TK-1141) [B0062]
Tool Kit, Intermediate Level Electrician's (TK-1141/1) [B7900]

MATERIAL: Bill of Materials (BOM)

UNITS/PERSONNEL: MOS 1141 (Electrician)

# ENG & UTIL T&R MANUAL

# CHAPTER 9

# MOS 1142 INDIVIDUAL EVENTS

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### ENG & UTIL T&R MANUAL

#### CHAPTER 9

#### MOS 1142 INDIVIDUAL EVENTS

- **9000. PURPOSE.** This chapter details the individual events that pertain to the Engineer Equipment Electrical Systems Technician. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful.
- **9001. EVENT CODING.** Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX. This chapter utilizes the following methodology
- a. Field one. This field represents the community. This chapter contains the following community codes:
  - Code Description
    1142 Engineer Equipment Electrical Systems Technician
- b. Field two. This field represents the functional/duty area. This chapter contains the following functional/duty areas:

Code Description
ADMN Administration
MANT Maintenance

- c. Field three.
- (1) The first digit of this field provides the level at which the event is accomplished. The following event levels are used:

Code 1000 Description Core Skills
2000 Core Plus Skills

(2) As the Task Analyst/Advocate has deemed appropriate the second digit of this field represents a sub-function to that duty area identified in field two. The following sub-functions are used in this chapter:

Code X0XX Description
X1XX Miscellaneous maintenance functions
X2XX Preventive Maintenance Checks and Services
X3XX Diagnosing equipment malfunctions
X4XX Repairing equipment

(3) The last two digits of this field are used to identify and categorize like events or equipment across all MOSs of the 1100 OccFld (see

Chapters 7 through 12), or are just numerical sequencing of events. Following are **some** examples of the categories used:

- Code Description
  X002 Core and Core Plus Skills related to controlling hazardous energy. See: 1120-ADMN-2002, 1141-ADMN-1002, 1142-ADMN-1002, 1161-ADMN-1002, 1169-ADMN-2002, 1171-ADMN-1002.
  X012 Core and Core Plus Skills related to NAVMC 10772 initiation, validation and submission. See: 1120-ADMN-2012, 1141-ADMN-1012, 1142-ADMN-1012, 1161-ADMN-1012, 1169-ADMN-2012, 1171-ADMN-1012.
- 2023 Core Plus advanced level MOS training program functions. See: 1120-ADMN-2023, 1141-ADMN-2023, 1142-ADMN-2023, 1161-ADMN-2023, 1169-ADMN-2023, 1171-ADMN-2023.
- 206X Core Plus advanced level supply support functions. See: 1120-ADMN-2061, 1120-ADMN-2062, 1120-ADMN-2063, 1120-ADMN-2064, 1120-ADMN-2065, 1141-ADMN-2061, 1141-ADMN-2062, 1142-ADMN-2061, 1142-ADMN-2062, 1161-ADMN-2061, 1169-ADMN-2061, 1169-ADMN-2063, 1169-ADMN-2064, 1169-ADMN-2065, 1171-ADMN-2061, 1171-ADMN-2062.
- XX18 Core and Core Plus Skills related to maintaining and operating the Integrated Tent, ECU and Generator (ITEG). See: 1141-XENG-1618, 1141-MANT-2218, 1141-XENG-2718, 1142-MANT-2318, 1161-MANT-1318, 1161-MANT-2618.

  NOTE: There are three MOSs involved with this equipment.
- XX42 Core and Core Plus Skills related to load testing generator sets and maintaining and operating load testing equipment. See: 1141-MANT-1142, 1142-MANT-1142, 1142-MANT-1242, 1142-MANT-1342, 1142-MANT-2442.

NOTE: Of the 96 non-"ADMN" events performed by MOSs 1141 and 1142 only five "MANT" events could be called common to both MOSs. These are 114X-MANT-1101, 114X-MANT-1142, 114X-XXXX-1X95, 114X-MANT-2191 and 114X-MANT-2199. This leaves 56 unique events for MOS 1141 and 40 unique events for MOS 1142. There are 22 "ADMN" events that are common to both MOSs, but they are also common to all other basic MOSs in the OccFld.

#### 9002. INDEX OF INDIVIDUAL EVENTS

| EVENT          | TITLE                                               | PAGE |
|----------------|-----------------------------------------------------|------|
|                | 1000-LEVEL EVENTS                                   |      |
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#### 9003. 1000-LEVEL EVENTS

1142-ADMN-1001: Conduct an Operational Risk Assessment (ORA)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a task/mission, a Risk Management Worksheet, and references.

**STANDARD:** So task/mission effectiveness is increased while loss of personnel and material is minimized through the use of risk management controls.

## PERFORMANCE STEPS:

- 1. Identify task/mission requirements.
- 2. Review references.
- 3. Identify hazards, recording them on Risk Management Worksheet.
- 4. Assess severity and probability of hazards to determine risk levels.
- 5. Develop risk control measures.
- 6. Make risk decisions and/or forward Risk Management Worksheet to supervisor for decision/approval.
- 7. Implement controls.

# RELATED EVENTS:

1141-ADMN-1001 1161-ADMN-1001 1171-ADMN-1001

## REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCO 3500.27\_ Operational Risk Management (ORM)

### SUPPORT REQUIREMENTS:

MATERIAL: Risk Management Worksheet.

1142-ADMN-1002: Control (Lockout/Tagout) hazardous energy

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment, equipment manuals, Lockout/Tagout devices, forms, and references.

**STANDARD:** So equipment is locked out or tagged out to protect against accidental or inadvertent start-up, or operation that may cause injury to personnel performing maintenance, service, repair, or modification to the equipment.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Locate all energy isolating devices and hazardous energy sources (NOTE: there may be more than one).
- 3. Obtain required number of Lockout/Tagout devices from program coordinator.
- 4. Notify all effected personnel and supervisors.
- 5. Don Personal Protective Equipment (PPE).
- 6. Shut down equipment/turn off circuit.
- 7. Dissipate or restrain any stored energy.
- 8. Apply Lockout/Tagout devices.
- 9. Verify energy is isolated/dissipated (test circuit).
- 10. Effect required service, maintenance, repairs or modifications to equipment/circuit.
- 11. Remove Lockout/Tagout devices.
- 12. Restore equipment/circuit to normal operation.
- 13. Return Lockout/Tagout devices to program coordinator.

**PREREQUISITE EVENTS:** 1142-ADMN-1001

## RELATED EVENTS:

1141-ADMN-1002 1161-ADMN-1002 1171-ADMN-1002

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. NAVMC DIR 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Program Manual
- 3. UNIT SOP Unit's Standing Operating Procedures

## SUPPORT REQUIREMENTS:

**EQUIPMENT:** Personal Protective Equipment (PPE)

### MATERIAL:

Lockout/Tagout devices
NAVMC 11403 (Lockout/Tagout Checklist)

UNITS/PERSONNEL: Lockout/Tagout Program Coordinator

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: NAVMC Dir 5100.8, Chapter 12, provides detailed information for this event.

1142-ADMN-1003: Recover an electric shock victim

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a situation and without references.

STANDARD: So danger to personnel is eliminated and victim is cared for.

### PERFORMANCE STEPS:

- 1. Evaluate situation.
- 2. Send for help.
- 3. Provide for personal protection.
- 4. Isolate victim from electrical source.
- 5. Evaluate victim.
- 6. Start artificial resuscitation (if necessary).
- 7. Remain with victim until medical help arrives.
- 8. Report incident.

# RELATED EVENTS:

#### **REFERENCES:**

- 1. MCRP 3-02G First Aid
- 2. MCRP 3-17.7K Theater of Operations Electrical Systems
- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 4. TM 2000-15/4 Power System Reference Manual
- 5. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

### SUPPORT REQUIREMENTS:

### MATERIAL:

Ropes

Brooms, mops or tree branches

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1142-ADMN-1004: Respond to a hazardous materials spill

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a situation and without references.

STANDARD: So the spill is contained, reported, and cleaned up.

# PERFORMANCE STEPS:

- 1. Evacuate immediate area (if necessary).
- 2. Provide for personal protection.
- 3. Contain spill.
- 4. Report spill.
- 5. Remove uncontaminated material.
- 6. Dispose of hazardous material.

#### RELATED EVENTS:

1120-ADMN-2004 1141-ADMN-1004 1161-ADMN-1004 1169-ADMN-2004 1171-ADMN-1004

### REFERENCES:

- 1. INSTALLATION SOP Installation's Standing Operating Procedures
- 2. MCO 4450.12\_ Storage and Handling of Hazardous Materials
- 3. MCO P5090.2\_ Environmental Compliance and Protection Manual
- 4. MCRP 4-11B Environmental Considerations

# **SUPPORT REQUIREMENTS:**

MATERIAL: Spill containment kit

### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: MCO 4450.12A, Chapter 7 and MCRP 4-11B, Appendix J, Tab A provide detailed information for this event.

1142-ADMN-1005: Administer first aid for chemical ingestion/contact

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a situation and Material Safety Data Sheets (MSDS).

**STANDARD:** So effect of the chemical is mitigated and victim is cared for per the MSDS and MCRP 3-02G.

#### PERFORMANCE STEPS:

- 1. Protect yourself and other personnel.
- 2. Send for help.
- 3. Review Material Safety Data Sheet (MSDS).
- 4. Provide for personal protection (if required).
- 5. Give first aid.
- 6. Remain with victim until medical help arrives.
- 7. Report incident.

#### RELATED EVENTS:

1120-ADMN-2005 1141-ADMN-1005 1161-ADMN-1005 1169-ADMN-2005 1171-ADMN-1005

#### **REFERENCES:**

1. MCRP 3-02G First Aid

### SUPPORT REQUIREMENTS:

MATERIAL: Material Safety Data Sheet (MSDS) file

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: MCRP 3-02G, Chapter 7 provides detailed information for this event.

<u>1142-ADMN-1006</u>: Obtain equipment publications

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With a tasking, equipment, and references.

**STANDARD:** So appropriate publication(s) are used with corresponding equipment.

### PERFORMANCE STEPS:

- 1. Determine/record equipment National Stock Number (NSN).
- 2. Determine/record equipment Model Number.
- 3. Determine/record equipment Identification Number.
- 4. Ascertain section's authorized echelon of maintenance.
- 5. Identify publications that are published/available for equipment.
- 6. Check required publications out of section's Publication Library.

# RELATED EVENTS:

1141-ADMN-1006 1161-ADMN-1006 1171-ADMN-1006

#### **REFERENCES:**

- 1. MCO P4790.2\_ MIMMS Field Procedures Manual
- 2. MCO P5215.17\_ The Marine Corps Technical Publications System
- 3. SL-1-2/SL-1-3 Index of Publications Stocked by the USMC
- 4. UNIT SOP Unit's Standing Operating Procedures

# SUPPORT REQUIREMENTS:

OTHER SUPPORT REQUIREMENTS: Internet access, with a CAC card, may be required to complete this event at some units.

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Additional information to assist or increase personal knowledge for this event is contained in MCI 0416B - The Marine Corps Publications and Directives System.

1142-ADMN-1007: Conduct an SL-3 Components List/Basic Issue Items (BII)
inventory

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment and references.

 $\underline{\mathtt{STANDARD}}$ : So accountability of all components is validated per the SL-3/BII list and TM 4700-15/1H.

## PERFORMANCE STEPS:

- 1. Review references.
- 2. Obtain Components List (SL-3 or TM listing Basic Issue Items [BII]) for item.
- 3. Identify each component using the SL-3/BII.
- 4. Identify missing components.
- 5. Identify unserviceable components.
- 6. Document inventory results.
- 7. Report any inventory discrepancies and unserviceable components.

PREREQUISITE EVENTS: 1142-ADMN-1006

### RELATED EVENTS:

1141-ADMN-1007 1161-ADMN-1007 1171-ADMN-1007

## REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 3. SI 10510-OR/1 Tool Warranty/Replacement Instructions for Using the USMC ServMart

- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. UNIT SOP Unit's Standing Operating Procedures

## SUPPORT REQUIREMENTS:

MATERIAL: SL-3/BII inventory sheets

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: TM 4700-15/1H, Chapter 2, Section 6 provides detailed information for this event.

1142-ADMN-1008: Conduct an LTI

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: LTI is Limited Technical Inspection.

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment requiring inspection and the equipment's records, forms, tools, and references.

**STANDARD:** So equipment is inspected for serviceability and discrepancies are identified.

# PERFORMANCE STEPS:

- 1. Review references.
- 2. Lockout/Tagout equipment (if required).
- 3. Provide for personal protection (if required).
- 4. Identify components.
- 5. Verify component function/serviceability.
- 6. Verify authorized modifications.
- 7. Record discrepancies (if any).
- 8. Attach NAVMC 1018 to equipment (if required).
- 9. Complete the NAVMC 10560.

#### PREREQUISITE EVENTS:

1142-ADMN-1001 1142-ADMN-1002 1142-ADMN-1006 1142-ADMN-1007 1142-MANT-1101

### RELATED EVENTS:

1141-ADMN-1008 1161-ADMN-1008 1171-ADMN-1008

## REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCO P4790.2\_ MIMMS Field Procedures Manual
- 3. MCRP 4-11.4A Recovery and Battle Damage Assessment and Repair
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures

- 5. TM 9-6115-624-BD Battlefield Damage Assessment and Repair for Generators
- 6. UNIT SOP Unit's Standing Operating Procedures

## SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Multimeter [H7030]

### MATERIAL:

NAVMC 1018 (Inspection/Repair Tag)

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection of Engineer Equipment [LTI])

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: TM 4700-15/1H, Chapter 2, Section 9 provides information for completing the NAVMC 1018 and TM 4700-15/1H, Chapter 2, Section 22 provides information for completing the NAVMC 10560.

1142-ADMN-1009: Document equipment operation history

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, equipment's records, forms, and references.

**STANDARD:** So hours/days of operation for the equipment are indicated and preventive maintenance intervals can be scheduled/rescheduled.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Validate equipment descriptive data on NAVMC 696D.
- 3. Ensure equipment descriptive data on NAVMC 10524 is correct.
- 4. Record hours/days equipment was operated (on NAVMC 10524 and in GCSS-MC).

#### RELATED EVENTS:

1141-ADMN-1009 1161-ADMN-1009 1171-ADMN-1009

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. MCO P4790.2\_ MIMMS Field Procedures Manual
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

#### MATERIAL:

NAVMC 696D (Motor Vehicle and Engineer Equipment Record Folder)
NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: TM 4700-15/1H, Chapter 2, Section 14 provides information for completing the NAVMC 696D and TM 4700-15/1H, Chapter 2, Section 21 provides information for completing the NAVMC 10524.

1142-ADMN-1010: Requisition repair parts

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With access to GCSS-MC and/or forms, a list of required parts/components, required unit unique data, equipment technical manuals, and references.

**STANDARD:** So valid requisitions are created.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review equipment technical manuals and/or stock lists.
- 3. Retrieve and review assigned GCSS-MC Service Request (SR) task, validating equipment identification data.
- 4. Debrief GCSS-MC SR task by entering repair part(s)/component(s) requirement information.
- 5. Change GCSS-MC SR status to "waiting approval."
- 6. Follow up/reconcile requisitions (as needed/required).

**PREREQUISITE EVENTS:** 1142-ADMN-1006

## RELATED EVENTS:

1141-ADMN-1010 1142-ADMN-1011 1161-ADMN-1010 1171-ADMN-1010

#### REFERENCES:

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. MCO P4790.2 MIMMS Field Procedures Manual
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. UNIT SOP Unit's Standing Operating Procedures

### SUPPORT REQUIREMENTS:

OTHER SUPPORT REQUIREMENTS: Internet access, with a CAC card, may be

required in order to complete this event.

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: TM 4700-15/1H, Chapter 2, Section 3 provides information that will assist in entering repair part/component requirements into GCSS-MC.

1142-ADMN-1011: Document equipment service/repair history

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With access to GCSS-MC and/or forms and references.

STANDARD: So service/repair actions for equipment are debriefed.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Retrieve and review assigned GCSS-MC Service Request (SR).
- 3. Debrief GCSS-MC SR task by updating information with service/repair actions taken.
- 4. Change GCSS-MC SR status to "waiting approval."

### RELATED EVENTS:

| 1141-ADMN-1011 | 1142-ADMN-1006 | 1142-ADMN-1008 |
|----------------|----------------|----------------|
| 1142-ADMN-1009 | 1142-ADMN-1010 | 1161-ADMN-1011 |
| 1171-ADMN-1011 |                |                |

## REFERENCES:

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. TM 4700-15/1 Ground Equipment Record Procedures

# **SUPPORT REQUIREMENTS:**

OTHER SUPPORT REQUIREMENTS: Internet access, with a CAC card, may be required in order to complete this event.

**1142-ADMN-1012:** Initiate a NAVMC 10772

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: NAVMC 10772 is Recommended Change to Technical Publications/Logistics-Maintenance Data Coding.

NAVMC 3500.12B 22 Jan 2014

BILLETS: Engineer Equipment Electrical Systems Technician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With an identified error/deficiency to a technical publication and references.

**STANDARD:** So corrections/improvements to the publication will be affected per TM 4700-15/1H and MCO P5215.17C.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Determine if error/deficiency requires use of Part I or Part II of NAVMC 10772.
- 3. Fill in all required blocks of NAVMC 10772.
- 4. Forward completed NAVMC 10772.

PREREQUISITE EVENTS: 1142-ADMN-1006

### RELATED EVENTS:

1141-ADMN-1012 1161-ADMN-1012 1171-ADMN-1012

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO P5215.17 The Marine Corps Technical Publications System
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures
- 4. UNIT SOP Unit's Standing Operating Procedures

# SUPPORT REQUIREMENTS:

MATERIAL: NAVMC 10772 (Recommended Change to Technical Publications/Logistics-Maintenance Data Coding)

OTHER SUPPORT REQUIREMENTS: Internet access, with a CAC card, may be required in order to complete this event per Unit's SOP. The website: https://portal.logcom.usmc.mil/sites/pubs/Site%20Pages/NAVMC10772RFC.aspx.

#### **MISCELLANEOUS:**

<u>ADMINISTRATIVE INSTRUCTIONS</u>: TM 4700-15/1H, Chapter 2, Section 23 provides detailed information for this event.

1142-MANT-1101: Operate a multimeter

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment having an electrical circuit(s).

STANDARD: So electrical outputs of the circuit are measured.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Determine correct setting (AC, DC, resistance or current).
- 3. Test circuit (voltage, resistance, current).
- 4. Record measurements/readings.
- 5. Analyze measurements/readings.

#### PREREQUISITE EVENTS:

1142-ADMN-1001 1142-ADMN-1002 1142-ADMN-1006

# RELATED EVENTS:

1141-MANT-1101 1161-MANT-1101 1171-MANT-2101

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. IM 8024B Manufacturer's Instruction Manual for Fluke Model 8024B Digital Multimeter
- 3. SL-3-09869A Components List for Multimeter, Model 77-4BN
- 4. TC 9-60 Communications-Electronics Fundamentals, Basic Principles of Alternating Current and Direct Current
- 5. TC 9-62 Communications-Electronics Fundamentals, Solid State Devices and Solid State Power Supplies and Amplifiers
- 6. TM 2000-15/4 Power System Reference Manual

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Multimeter [H7030]

Anti-Static Wrist Strap (if required) Equipment with an electrical circuit

1142-MANT-1106: Operate a semiconductor test device

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With solid state device(s), equipment, and references.

STANDARD: So serviceability of the solid state device(s) is determined.

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review references.
- 3. Determine correct settings for test device.

- 4. Test solid state device.
- 5. Record measurements/readings.
- 6. Analyze measurements/readings.

1142-ADMN-1001 1142-ADMN-1002 1142-ADMN-1006

**RELATED EVENTS:** 1142-MANT-1101

#### REFERENCES:

1. Appropriate Technical Manuals

- 2. TC 9-60 Communications-Electronics Fundamentals, Basic Principles of Alternating Current and Direct Current
- $3.\ \,$  TC 9-62 Communications-Electronics Fundamentals, Solid State Devices and Solid State Power Supplies and Amplifiers
- 4. TM 2000-15/4 Power System Reference Manual

# SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Test Set, Semiconductor Device [H7020] Multimeter [H7030] Anti-Static Wrist Strap (if required) Solid state devices

1142-MANT-1108: Repair a wire connection on equipment

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, tools, material, and references.

**STANDARD:** So electrical continuity is established with tensile strength required by technical manuals related to the application.

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review references.
- 3. Determine type of splice/connection required.
- 4. Don Personal Protective Equipment (PPE).
- 5. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 6. Strip wire(s).
- 7. Clean component(s) and wire(s).
- 8. Construct the splice/connection.
- 9. Test splice/connection.
- 10. Insulate bare wires.

1142-ADMN-1002 1142-ADMN-1006 1142-MANT-1101

## RELATED EVENTS:

1142-MANT-1109 1161-MANT-1108

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. TC 9-60 Communications-Electronics Fundamentals, Basic Principles of Alternating Current and Direct Current
- 3. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 4. TM 2000-15/4 Power System Reference Manual

### SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)

Shop Equipment, General Purpose, Common No. 24 [C7911] - and/or -

Shop Equipment, General Purpose, Common No. 34 [C7913] - and/or -

General Mechanics Tool Kit (GMTK) [C7915] - and/or -

Shop Equipment, General Purpose, Common No. 30 [C7930]

Multimeter [H7030]

Equipment with faulty wire connection(s)

#### MATERIAL

Wire

Connector(s) (if required)

Electrical tape

1142-MANT-1109: Solder an electrical connection

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, tools, material, and references.

**STANDARD:** So electrical continuity is established with tensile strength required by TB SIG 222 and technical manuals related to the application.

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify VAPOR HAZARD(S).
- 3. Review references.
- 4. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 5. Clean component(s) and wire(s).
- 6. Don Personal Protective Equipment (PPE).
- 7. Position component(s) and wire(s).

- 8. Apply flux (if needed).
- 9. Heat connection.
- 10. Apply solder.
- 11. Allow connection to cool.
- 12. Test connection.
- 13. Insulate bare wires.

1142-ADMN-1001 1142-ADMN-1002 1142-ADMN-1006

1142-MANT-1101

#### RELATED EVENTS:

1142-MANT-1108 1161-MANT-1109

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. TB SIG 222 Solder and Soldering
- 3. TC 9-60 Communications-Electronics Fundamentals, Basic Principles of Alternating Current and Direct Current
- $4.\ \ \text{TC 9-62 Communications-Electronics Fundamentals, Solid State Devices and Solid State Power Supplies and Amplifiers$
- 5. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 6. TM 2000-15/4 Power System Reference Manual

## SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)

Shop Equipment, General Purpose, Common No. 24 [C7911] - and/or -

Shop Equipment, General Purpose, Common No. 34 [C7913] - and/or -

General Mechanics Tool Kit (GMTK) [C7915] - and/or -

Shop Equipment, General Purpose, Common No. 30 [C7930]

Multimeter [H7030]

Soldering Iron

Equipment with faulty wire connection(s)

#### MATERIAL:

Wire

Connector(s) (if required)

Flux (if needed)

Solder

Electrical tape

OTHER SUPPORT REQUIREMENTS: Ventilation is required if this event is performed indoors.

1142-MANT-1142: Load test generator set(s)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

# INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, tools, forms, and references.

**STANDARD:** So ability of generator set(s) to safely take a designated electrical load is determined.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review references, including generator technical manuals.
- 5. Don Personal Protective Equipment (PPE).
- 6. Ground equipment.
- 7. Connect load bank to generator(s) (using overcurrent protection).
- 8. Start generator(s), contacting load.
- 9. Perform before operation checks on load bank.
- 10. Apply load to generator(s).
- 11. Perform during operation checks on load bank.
- 12. Record readings from load bank.
- 13. Analyze data collected during test.
- 14. Disconnect load from generator(s).
- 15. Perform after operation checks on load bank.
- 16. Shut down load bank.
- 17. Shut down generator(s).
- 18. Disconnect load bank.
- 19. Record test results.

### PREREQUISITE EVENTS:

1142-ADMN-1001 1142-ADMN-1006

## RELATED EVENTS:

1141-MANT-1142 1142-ADMN-1008 1142-ADMN-1009 1142-ADMN-1011

## REFERENCES:

- 1. Appropriate Technical Manuals
- 2. TM 07500C-OI Operation/Maintenance Manual with Repair Parts List for Load Bank, Electrical, 100kW, Model LSH100D42423
- 3. TM 4700-15/1 Ground Equipment Record Procedures
- 4. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Multimeter [H7030]
100kW Electrical Load Bank [B0579]
Generator(s) to be load tested

# MATERIAL:

NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service

Record) Fuel

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Graduates of the Basic Engineer Equipment Electrical Systems Technician Course (CID: M03UAA2) are licensed operators of the 100kW Electrical Load Bank [B0579].

SPECIAL PERSONNEL CERTS: Only Electricians (MOS 1141) and Engineer Equipment Electrical Systems Technicians (MOS 1142) will be licensed to operate a 100kW Electrical Load Bank [B0579].

1142-MANT-1195: Parallel tactical generator sets

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: NOTE: Due to the hazards involved, to both personnel and equipment, tactical generators should only be placed in parallel by licensed (MOS 1141) Electricians or qualified (MOS 1142) Engineer Equipment Electrical Systems Technicians.

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With multiple generator sets, equipment, tools, paralleling cable, conductors, overcurrent protection, and references.

STANDARD: So generators are synchronized and sharing the electrical load.

## PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review references.
- 5. Reassess operational risk.
- 6. Don Personal Protective Equipment (PPE).
- 7. Ensure generators are grounded.
- 8. Perform before operation checks on generators.
- 9. Connect generators with paralleling cable and conductors through overcurrent protection.
- 10. Ensure all load/voltage requirements are observed.
- 11. Synchronize generators.
- 12. Contact load.
- 13. Make necessary adjustments.
- 14. Perform during operation checks/services.

### PREREQUISITE EVENTS:

1142-ADMN-1001 1142-ADMN-1002 1142-ADMN-1006

1142-MANT-1142

**RELATED EVENTS:** 1141-XENG-1795

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCRP 3-17.7K Theater of Operations Electrical Systems
- 3. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

#### SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Multimeter [H7030]
Overcurrent protection (MEPDIS/MEPDIS-R preferred if available)
Tactical generator sets

#### MATERIAL:

Paralleling cable Conductors Fuel

#### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Graduates of the Basic Engineer Equipment Electrical Systems Technician Course (CID: M03UAA2) are trained and qualified to parallel generators. Only trained/qualified Marines (MOS 1141 & 1142) will parallel generators.

SPECIAL PERSONNEL CERTS: Due to the hazards involved, to both personnel and equipment, tactical generators should only be placed in parallel by licensed (MOS 1141) Electricians or qualified (MOS 1142) Engineer Equipment Electrical Systems Technicians.

1142-MANT-1242: Perform scheduled PMCS on a 100kW Electrical Load Bank

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

DESCRIPTION: PMCS is Preventive Maintenance Checks and Services.

**BILLETS:** Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment, tools, parts for scheduled services, forms, and references.

**STANDARD:** So equipment is checked and serviced per TM 07500C-OI and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review equipment technical manuals.
- 3. Review Service Request (SR).
- 4. Don Personal Protective Equipment (PPE).
- 5. Ensure equipment is grounded.
- 6. Contain (Lockout/Tagout) hazardous energy.
- 7. Inspect equipment.
- 8. Service equipment.
- 9. Document maintenance performed and deficiencies/discrepancies noted.

1142-ADMN-1001 1142-ADMN-1002 1142-ADMN-1006

1142-ADMN-1011 1142-MANT-1142

### RELATED EVENTS:

1142-ADMN-1007 1142-ADMN-1008

#### **REFERENCES:**

- 1. FP 07500C Fielding Plan for the Mobile Electric Power Load Bank, Electrical
- 2. SI 07500C-OI/1 Warranty Procedures for Load Bank, Electrical
- 3. SI 07500C-OI/2 Warranty Procedures for Digital Monitoring System and Multifunctional Display for the Load Bank, Electrical, 100kW
- 4. SL-3-07500C Components List for Load Bank, Electrical, 100kW, Model LSH100D42423
- 5. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 6. TM 07500C-OI Operation/Maintenance Manual with Repair Parts List for Load Bank, Electrical, 100kW, Model LSH100D42423
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

- Personal Protective Equipment (PPE)
- General Mechanics Tool Kit (GMTK) [C7915]
- 100kW Load Bank, Electrical [B0579]
- Generator set

#### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])
Parts for scheduled services

parts for scheduled services

Fuel

 $\underline{\textbf{1142-MANT-1331}}$ : Diagnose an M-80/M-85 Water Heater electrical system malfunction

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

# INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, electrical power source, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective action(s) initiated.

#### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review LTI.
- 5. Review equipment technical manuals/wiring diagrams/schematics.
- 6. Don Personal Protective Equipment (PPE).
- 7. Ensure equipment is grounded.
- 8. Ensure any hazardous energy is controlled (Lockout/Tagout) (if required).
- 9. Check switches/gauges for correct settings.
- 10. Isolate faulty circuit(s).
- 11. Trace current/voltage paths in circuits.
- 12. Isolate faulty component(s).
- 13. Determine if component fault was caused by a defect elsewhere (repeating steps 10, 11, and/or 12 as required).
- 14. Determine echelon(s) of maintenance.
- 15. Document findings (complete LTI/update Service Request).
- 16. Order parts (if required).

### PREREQUISITE EVENTS:

| 1142-ADMN-1001 | 1142-ADMN-1002 | 1142-ADMN-1006 |
|----------------|----------------|----------------|
| 1142-MANT-1101 |                |                |

## RELATED EVENTS:

| 1142-ADMN-1008 | 1142-ADMN-1010 | 1142-ADMN-1011 |
|----------------|----------------|----------------|
| 1142-MANT-2332 | 1171-MANT-1331 | 1171-MANT-1332 |

#### **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 4. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 5. TM 10-4520-259-13&P Operator's, Unit and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Heater, Water, Liquid Fuel, Models M-80 and M-85
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)
Multimeter [H7030]
General Mechanics Tool Kit (GMTK) [C7915]
Anti-Static Wrist Strap (if required)

Faulty M-80 or M-85 Water Heater

### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

<u>UNITS/PERSONNEL</u>: MOS 1171 (Water Support Technician) to facilitate troubleshooting process

OTHER SUPPORT REQUIREMENTS: Electrical power source may be required

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: M-80 and M-85 Water Heaters are components of the Shower Facility, Bare Base [B0055] and Containerized Batch Laundry (CBL) Unit [B0066].

1142-MANT-1342: Diagnose a 100kW Electrical Load Bank malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, electrical power source, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective action(s) initiated.

#### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review LTI.
- 3. Review equipment technical manuals/wiring diagrams/schematics.
- 4. Don Personal Protective Equipment (PPE).
- 5. Ensure equipment is grounded.
- 6. Check switches/gauges for correct settings.
- 7. Isolate faulty circuit(s).
- 8. Trace current/voltage paths in circuits.
- 9. Isolate faulty component(s).
- 10. Determine if component fault was caused by a defect elsewhere (repeating steps 7, 8, and/or 9 as required).
- 11. Determine echelon(s) of maintenance.
- 12. Document findings (complete LTI/update Service Request).
- 13. Order parts (if required).

# PREREQUISITE EVENTS:

1142-ADMN-1001 1142-ADMN-1006 1142-MANT-1101

1142-MANT-1142

### RELATED EVENTS:

1142-ADMN-1008 1142-ADMN-1010 1142-ADMN-1011

1142-MANT-1242

#### **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 4. TM 07500C-OI Operation/Maintenance Manual with Repair Parts List for Load Bank, Electrical, 100kW, Model LSH100D42423
- 5. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Multimeter [H7030]
General Mechanics Tool Kit (GMTK) [C7915]
Anti-Static Wrist Strap (if required)
Faulty 100kW Load Bank, Electrical [B0579]
Generator set

### MATERIAL:

NAVMC  $\overline{10}560$  (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI]) Fuel

OTHER SUPPORT REQUIREMENTS: Electrical power source may be required

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Graduates of the Basic Engineer Equipment Electrical Systems Technician Course (CID: M03UAA2) are licensed operators of the 100kW Electrical Load Bank [B0579].

1142-MANT-1351: Diagnose a generator set malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, tools, forms, and references.

STANDARD: So equipment faults are identified and corrective action(s)

initiated.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review LTI.
- 5. Review equipment technical manuals/wiring diagrams/schematics.
- 6. Don Personal Protective Equipment (PPE).
- 7. Ensure equipment is grounded.
- 8. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout) (if required).
- 9. Check switches/gauges for correct settings.
- 10. Isolate faulty circuit(s).
- 11. Trace current/voltage paths in circuits.
- 12. Isolate faulty component(s).
- 13. Determine if component fault was caused by a defect elsewhere (repeating steps 10, 11, and/or 12 as required).
- 14. Determine echelon(s) of maintenance.
- 15. Document findings (complete LTI/update Service Request).
- 16. Order parts (if required).

### PREREQUISITE EVENTS:

| 1142-ADMN-1001 | 1142-ADMN-1002 | 1142-ADMN-1006 |
|----------------|----------------|----------------|
| 1142-MANT-1101 | 1142-MANT-1106 |                |

### RELATED EVENTS:

1141-MANT-1251 1142-ADMN-1008 1142-ADMN-1010 1142-ADMN-1011

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. CG MarCorSysCom msg R011721Z May 07 Maintenance Advisory Message (MAM): Pulse Solar Charger (PSC) Installation on USMC Tactical Generator Fleet
- 3. DP 6115 Disposal Plan for the Military Standard Generator Sets
- 4. DP 6115/1 Disposal Plan for the Alpha Model Tactical Quiet Generator Sets
- 5. FP 07464C Fielding Plan for B1045 MEP-807A 100kW Tactical Quiet Generator (TQG)  $\,$
- 6. FP 6115 Fielding Plan for the Advanced Medium Mobile Power Sources (AMMPS)
- 7. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 8. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 9. LO 9-6115-641-12 Lubrication Order for Generator Set, Skid Mounted, Tactical Quiet, 5kW, 60Hz, MEP-802A
- 10. LO 9-6115-642-12 Lubrication Order for Generator Set, Skid Mounted, Tactical Quiet, 10kW, 60Hz MEP-803A and 400Hz MEP-813A
- 11. LO 9-6115-671-12 Lubrication Order for Generator Set, Skid Mounted, Tactical Quiet, 30kW, 50/60Hz MEP-805B and 400Hz MEP-815B
- 12. LO 9-6115-672-12 Lubrication Order for Generator Set, Skid Mounted, Tactical Quiet, 60kW, 50/60Hz MEP-806B and 400Hz MEP-816B
- 13. MI 07464C-OI Installation of Pulse Solar Charger on Tactical Quiet Generators, 100 Kilowatt, 60 Hertz (MEP-807A)
- 14. MI 09018A-34/1 Replacement of Diesel Engine Power Generating Unit with Generator Set, Diesel Engine, MEP-803A, in the Shop Equipment, General Purpose Repair, Semi Trailer Mounted (SGPRSMD)

- 15. MI 09247A/09248A-OR/1 Installation of Pulse Solar Charger (PSC) on Tactical Quiet Generators (TQG), 10 Kilowatt 60 Hertz (MEP-803A) and 10 Kilowatt 400 Hertz (MEP-813A)
- 16. MI 10155A-OR/1 Installation of Pulse Solar Charger (PSC) on Tactical Quiet Generators (TQG), 3 Kilowatt 60 Hertz (MEP-831A)
- 17. MI 11125A-OI/2 Relocation of Ether Bottle for the Generator Set, 20kW MMG-25
- 18. MI 11125A-OI/3 Drilling of the Oil Drain Access Hole for the Generator Set, 20kW MMG-25
- 19. MI 11125A-OR Installation of Pulse Solar Charger (PSC) on Generator Set,  $20\,\mathrm{kW}$  MMG25
- 20. MI 6115-24/24D Trailer Mounting of 10kW, MEP-003A, MEP-112A, MEP-803A, MEP-813A Generators on M116A2/3 Series Trailer
- 21. MI 6115-34/30 Battery Charging Fuse Modification and Control Power Circuit to Tactical Quiet Generator Models MEP-805B, MEP-815B, MEP-806B, MEP-816B
- 22. MI 6115-OI/25C Trailer Mounting of 3kW, MEP-831A Generators on M116A2/3 Series Trailer
- 23. MI 6115-OR/26A Trailer Mounting of Tactical Quiet Generators (TQG), 60 Kilowatt 60 Hertz (MEP-806A/B) or 60 Kilowatt 400 Hertz (MEP-816A/B) on M353 Trailer
- 24. MI 6115-OR/27A Trailer Mounting of Tactical Quiet Generators (TQG), 30 Kilowatt 60 Hertz (MEP-805A/B) or 30 Kilowatt 400 Hertz (MEP-815A/B) on M353 Trailer
- 25. MI 6115-OR/31 Installation of Pulse Solar Charger (PSC) on Tactical Quiet Generators (TQG), 30 Kilowatt 60 Hertz (MEP-805A/B) and 30 Kilowatt 400 Hertz (MEP-815A/B)
- 26. MI 6115-OR/32 Installation of Pulse Solar Charger (PSC) on Tactical Quiet Generators (TQG), 60 Kilowatt 60 Hertz (MEP-806A/B) and 60 Kilowatt 400 Hertz (MEP-816A/B)
- 27. SI 07464C-OI/1 Warranty Procedures for MEP-807A 100kW Tactical Quiet Generator
- 28. SI 09247A/09248A-24 Warranty Program for Generator Set, Tactical Quiet, 10kW, 60 and 400Hz, MEP-803A and MEP-813A
- 29. SI 11101A-OI/1 Warranty Procedures for MEP-531A 2kW Military Tactical Generator
- 30. SI 11125A-OI/1 Warranty Procedures for Generator Set, 20kW MMG-25
- 31. SI 6115-12/4 Warranty Procedures for Tactical Quiet Generator Series
- 32. SI 6115-OI Warranty Procedures for Advanced Medium Mobile Power Sources
- 33. SL-3-05926B/10155A Components List for Generator Set, Diesel Engine Driven, Skid Mounted, 3kW, 60Hz, MEP-016B/MEP-831A
- 34. SL-3-6115 Components List for Generator Set, Diesel Engine Driven, Skid Mounted
- 35. TB 11-6115-741-24 Field and Sustainment Maintenance for Tactical Generator Desert Operations Special Test, Inspection, and Repair Requirements
- 36. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- $37.\ TI\ 11125A-OI$  Engine Replacement Technical Instruction for Mobile Generator Set, MMG25
- 38. TI 6115-OR Product Improvement of the Pulse Receptacle Unit Component of the Pulse Solar Charger Kit
- 39. TM 07464C-10/1 Operator's Manual for Generator Set, Skid Mounted, Tactical Quiet, 100kW, 50/60Hz, MEP-807A
- 40. TM 07464C-24/2A Field and Sustainment Maintenance Manual for Generator Set, Skid Mounted, Tactical Quiet, 100kW, 50/60Hz, MEP-807A

- 41. TM 07464C-24P/3 Field and Sustainment Maintenance Manual Including Repair Parts and Special Tools List for Generator Set, Skid Mounted, Tactical Quiet, 100kW, 50/60Hz, MEP-807A
- $42.\ \mathrm{TM}\ \mathrm{O7464C}\ \mathrm{-35}\ \mathrm{Systems}\ \mathrm{Operation}\ \mathrm{Testing}\ \mathrm{and}\ \mathrm{Adjusting}\ \mathrm{for}\ \mathrm{Caterpillar}\ \mathrm{Generator}\ \mathrm{Sets}$
- 43. TM 09244B/09245B-14/1 Operator, Unit, Direct Support and General Support Maintenance Manual for Generator Set, Skid Mounted, Tactical Quiet, 60kW, 50/60 and 400 Hz, MEP-806B and MEP-816B
- $44.\ \mbox{TM}$  09244B/09245B-IN Field and Sustainment Maintenance Repair Parts and Special Tools List for Generator Set, Skid Mounted, Tactical Quiet, 60kW, 50/60 and 400 Hz, MEP-806B and MEP-816B
- 45. TM 09244C/09245C-OI Operator's Manual for Generator Set, Skid Mounted 60kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1070 50/60Hz and MEP-1071 400Hz
- 46. TM 09244C/09245C-OI/1 Field and Sustainment Maintenance Manual Including Repair Parts and Special Tools List for Generator Set, Skid Mounted 60kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1070 50/60Hz and MEP-1071 400Hz
- 47. TM 09245B/2815-24/3 Unit, Direct Support and General Support Maintenance Manual for Diesel Engine, Model 6068TF151, 6 Cylinder, 6.8 Liter, [MEP-806B/MEP-816B]
- 48. TM 09245B/2815-24P/4 Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for Diesel Engine, Model 6068TF151, 6 Cylinder, 6.8 Liter, [MEP-806B/MEP-816B]
- 49. TM 09246C/11776A-OI Operator's Manual for Generator Set, Skid Mounted 30kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1060 50/60Hz and MEP-1061 400Hz
- 50. TM 09246C/11776A-OI/1 Field and Sustainment Maintenance Manual Including Repair Parts and Special Tools List for Generator Set, Skid Mounted 30kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1060 50/60Hz and MEP-1061 400Hz
- 51. TM 09247A/09248A-10/1 Operator's Manual for Generator Set, Skid Mounted, Tactical Quiet, 10kW, MEP-803A/MEP-813A
- 52. TM 09247A/09248A-24/2 Unit, Direct Support and General Support Maintenance Manual for Generator Set, Skid Mounted, Tactical Quiet, 10kW, MEP-803A/MEP-813A
- 53. TM 09247A/09248A-24P/3 Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for Generator Set, Tactical Quiet, 10kW, 60/400Hz, MEP-803A/MEP-813
- 54. TM 09249B/09246B-14/1 Operator, Unit, Direct Support and General Support Maintenance Manual for Generator Set, Skid Mounted, Tactical Quiet, 30kW, 50/60 and 400Hz, MEP-805B/MEP-815B
- 55. TM 09249B/09246B-24P/2 Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for Generator Set, Skid Mounted, Tactical Quiet, 30kW, 50/60 and 400 Hz, MEP-805B and MEP-815B 56. TM 09249B/2815-24/3 Unit, Direct Support and General Support Maintenance Manual for Diesel Engine, Model 4045TF151, 4 Cylinder, 4.5 Liter [MEP-805B/MEP-815B]
- 57. TM 09249B/2815-24P/4 Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for Diesel Engine, Model 4045TF151, 4 Cylinder, 4.5 Liter [MEP-805B/MEP-815B]
- 58. TM 09292B-OI/1 Field and Sustainment Maintenance Manual Including Repair Parts and Special Tools List for Generator Set, Skid Mounted 5kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1030 50/60Hz and MEP-1031 400Hz

- 59. TM 09292B-OI/3 Operator's Manual for Generator Set, Skid Mounted 5kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1030 50/60Hz and MEP-1031 400Hz
- 60. TM 10155A/2815-24/3 Unit, Direct Support, and General Support Maintenance Manual for Diesel Engine Assembly, Model L70AE-DEGFR
- 61. TM 10155A/2815-24P/4 Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for Diesel Engine, Model L70AE-DEGFR
- 62. TM 10155A-OI/1A Operator and Field Maintenance Manual (Including Repair Parts and Special Tools List) for 3kW Tactical Quiet Generator Set MEP-831A (60Hz) and MEP-832A (400Hz)
- 63. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 64. TM 11125A-OI/A Operation/Maintenance Manual with Repair Parts List for Generator Set, Diesel Engine (Model MMG25)
- 65. TM 11598A-OI/A Field and Sustainment Maintenance Manual for Generator Set, Skid Mounted, Tactical Quiet 200 kW 50/60 Hz MEP-809A
- 66. TM 11598A-OR Operator's Manual for Generator Set, Skid Mounted, Tactical Quiet, 200kW, 50/60Hz, MEP-809A
- 67. TM 11773A-OI Operator's Manual for Generator Set, Skid Mounted 15kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1050 50/60Hz and MEP-1051 400Hz
- 68. TM 11773A-OI/1 Field and Sustainment Maintenance Manual Including Repair Parts and Special Tools List for Generator Set, Skid Mounted 15kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1050 50/60Hz and MEP-1051 400Hz 69. TM 11783A/11784A-OI Operator's Manual for Generator Set, Skid Mounted 10kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1040 50/60Hz and MEP-1041 400Hz
- 70. TM 11783A/11784A-OI/2 Field and Sustainment Maintenance Manual Including Repair Parts and Special Tools List for Generator Set, Skid Mounted 10kW Advanced Medium Mobile Power Sources (AMMPS) MEP-1040 50/60Hz and MEP-1041 400Hz
- 71. TM 2815-24/3 Unit, Direct Support and General Support Maintenance Instructions for Diesel Engine, Model DN4M, 4 Cylinder, 1.2 Liter
- 72. TM 2815-24P/1 Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for Diesel Engine, Model DN4M-1, Four-Cylinder, Four Cycle, Fuel Injected
- 73. TM 4700-15/1\_ Ground Equipment Record Procedures
- 74. TM 9-6115-641-10 Operator's Manual for Generator Set, Skid Mounted, Tactical Quiet, 5kW, 60 and 400Hz, MEP-802A and MEP-812A
- 75. TM 9-6115-641-24 Field and Sustainment Maintenance Manual for Generator Set, Skid Mounted, Tactical Quiet, 5kW, 60 and 400Hz, MEP-802A and MEP-812A 76. TM 9-6115-641-24P Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for Generator Set, Tactical Quiet, 5kW, 60/400Hz, MEP-802A and MEP-812A
- 77. TM 9-6115-673-13&P Operator and Field Maintenance Manual (Including Repair Parts and Special Tools List) for 2kW Military Tactical Generator Sets, 120VAC, 60Hz, MEP-531A
- $78.\ \text{TM}\ 9\text{-}6115\text{-}730\text{-}24P$  Field and Sustainment Level Repair Parts and Special Tools List for Generator Set, Skid Mounted, Tactical Quiet, 200kW, 50/60Hz, MEP-809A
- 79. ULSS 004295-15B User's Logistics Support Summary for Marine Corps Family of Tactical Quiet Generators (TQGs)

# SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Multimeter [H7030]
General Mechanics Tool Kit (GMTK) [C7915]
Anti-Static Wrist Strap (if required)
Faulty generator set or components

#### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])
Fuel

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Graduates of the Basic Engineer Equipment Electrical Systems Technician Course (CID: M03UAA2) ARE NOT licensed as generator set operators.

1142-MANT-1382: Analyze TWPS electrical circuit characteristics

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: TWPS is Tactical Water Purification System

BILLETS: Engineer Equipment Electrical Systems Technician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Limited Technical Inspection (LTI) on inoperable equipment and references.

**STANDARD:** So faulty electrical circuit(s) are identified.

#### PERFORMANCE STEPS:

- 1. Review LTI.
- 2. Review equipment technical manuals/wiring diagrams/schematics.
- Isolate circuit(s).
- 4. Trace current/voltage paths in circuits.
- Identify faulty component(s).
- 6. Determine if component fault was caused by a defect elsewhere (repeating steps 3, 4, and/or 5 as required).
- 7. Determine echelon(s) of maintenance.
- 8. Document findings (update LTI).

**PREREQUISITE EVENTS:** 1142-ADMN-1006

# RELATED EVENTS:

1142-ADMN-1008 1142-ADMN-1011 1171-MANT-1382

## REFERENCES:

1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid

- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TM 10802A-OI/1A Vol 1 Operator Manual for Tactical Water Purification System (TWPS)
- 4. TM 10802A-OI/1A Vol 2 Field Maintenance Manual for Tactical Water Purification System (TWPS)
- 5. TM 10802A-OI/2A Field Maintenance Repair Parts and Special Tools List for Tactical Water Purification System (TWPS)
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

MATERIAL: NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

1142-MANT-1392: Diagnose an electric motor malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, electrical power source, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective action(s) initiated.

## PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review LTI.
- 3. Review equipment technical manuals/wiring diagrams/schematics.
- 4. Don Personal Protective Equipment (PPE).
- 5. Ensure equipment is grounded.
- 6. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 7. Check switches for correct settings.
- 8. Determine type of electric motor (single-phase/three-phase/split phase/capacitor start).
- 9. Isolate faulty circuit(s).
- 10. Trace current/voltage paths in circuits.
- 11. Isolate faulty component(s).
- 12. Determine if component fault was caused by a defect elsewhere (repeating steps 9, 10, and/or 11 as required).
- 13. Determine echelon(s) of maintenance.
- 14. Document findings (complete LTI/update Service Request).
- 15. Order parts (if required).

# PREREQUISITE EVENTS:

1142-ADMN-1001 1142-ADMN-1002 1142-ADMN-1006

1142-MANT-1101

### RELATED EVENTS:

1141-XENG-1692 1141-XENG-1693 1142-ADMN-1008 1142-ADMN-1010 1142-ADMN-1011 1142-MANT-1493

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. EMR Electric Motor Repair, Third Addition
- 3. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 4. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 5. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 6. TC 9-60 Communications-Electronics Fundamentals, Basic Principles of Alternating Current and Direct Current
- 7. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 8. TM 2000-15/4 Power System Reference Manual
- 9. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Multimeter [H7030]

General Mechanics Tool Kit (GMTK) [C7915]

Anti-Static Wrist Strap (if required)

Equipment with faulty electric motor or the faulty electric motor

<u>MATERIAL</u>: NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

<u>UNITS/PERSONNEL</u>: Operator of equipment with faulty electric motor may be required to facilitate troubleshooting process.

OTHER SUPPORT REQUIREMENTS: Electrical power source will be required

1142-MANT-1451: Repair a tactical generator set electrical system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, tools, forms, and references.

**STANDARD:** So generator functions/operates as specified in equipment's technical manual(s) and repairs are documented per TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review Service Request (SR).
- 3. Inventory parts from layette.
- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE).
- 6. Ensure equipment is grounded.
- 7. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 8. Remove faulty part(s).
- 9. Prepare area(s) for new part(s).
- 10. Attach new part(s), making necessary adjustments.
- 11. Test repairs.
- 12. Document repairs.

#### PREREQUISITE EVENTS:

| 1142-ADMN-1001 | 1142-ADMN-1002 | 1142-ADMN-1006 |
|----------------|----------------|----------------|
| 1142-ADMN-1008 | 1142-ADMN-1011 | 1142-MANT-1101 |
| 1142-MANT-1108 | 1142-MANT-1109 | 1142-MANT-1142 |
| 1142-MANT-1351 |                |                |

### RELATED EVENTS:

| 1141-MANT-1142 | 1142-MANT-1466 | 1142-MANT-1467 |
|----------------|----------------|----------------|
| 1142-MANT-1468 | 1142-MANT-1469 |                |

#### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. TB 11-6115-741-24 Field and Sustainment Maintenance for Tactical Generator Desert Operations Special Test, Inspection, and Repair Requirements
- 5. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 6. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)

Shop Equipment, General Purpose, Common No. 24 [C7911] - and/or -

Shop Equipment, General Purpose, Common No. 34 [C7913] - and/or -

General Mechanics Tool Kit (GMTK) [C7915] - and/or -

Shop Equipment, General Purpose, Common No. 30 [C7930]

Multimeter [H7030]

100kW Electrical Load Bank [B0579]

Anti-Static Wrist Strap (if required)

Degraded/deadlined generator set

# MATERIAL:

Fuel

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

1142-MANT-1466: Repair a generator set air intake/exhaust system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, tools, forms, and references.

<u>STANDARD</u>: So generator functions/operates as specified in equipment's technical manual(s) and repairs are documented per TM 4700-15/1H.

# PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review Service Request (SR).
- 3. Inventory parts from layette.
- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE).
- 6. Ensure equipment is grounded.
- 7. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 8. Remove faulty part(s).
- 9. Prepare area(s) for new part(s).
- 10. Attach new part(s), making necessary adjustments.
- 11. Test repairs.
- 12. Document repairs.

### PREREQUISITE EVENTS:

| 1142-ADMN-1001 | 1142-ADMN-1002 | 1142-ADMN-1006 |
|----------------|----------------|----------------|
| 1142-ADMN-1008 | 1142-ADMN-1011 | 1142-MANT-1142 |
| 1142-MANT-1351 |                |                |

# RELATED EVENTS:

| 1142-MANT-1451 | 1142-MANT-1467 | 1142-MANT-1468 |
|----------------|----------------|----------------|
| 1142-MANT-1469 |                |                |

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

```
Personal Protective Equipment (PPE)
Shop Equipment, General Purpose, Common No. 24 [C7911] - and/or - Shop Equipment, General Purpose, Common No. 34 [C7913] - and/or -
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General Mechanics Tool Kit (GMTK) [C7915] - and/or - Shop Equipment, General Purpose, Common No. 30 [C7930] 100kW Electrical Load Bank [B0579] Degraded/deadlined generator set

#### MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

Fuel

1142-MANT-1467: Repair a generator set cooling system

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, tools, forms, and references.

**STANDARD:** So generator functions/operates as specified in equipment's technical manual(s) and repairs are documented per TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review Service Request (SR).
- 3. Inventory parts from layette.
- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE).
- 6. Ensure equipment is grounded.
- 7. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 8. Remove faulty part(s).
- 9. Prepare area(s) for new part(s).
- 10. Attach new part(s), making necessary adjustments.
- 11. Test repairs.
- 12. Document repairs.

# PREREQUISITE EVENTS:

| 1142-ADMN-1001 | 1142-ADMN-1002 | 1142-ADMN-1006 |
|----------------|----------------|----------------|
| 1142-ADMN-1008 | 1142-ADMN-1011 | 1142-MANT-1142 |
| 1142-MANT-1351 |                |                |

# RELATED EVENTS:

| 1142-MANT-1451 | 1142-MANT-1466 | 1142-MANT-1468 |
|----------------|----------------|----------------|
| 1142-MANT-1469 |                |                |

### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures

#### SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)
Shop Equipment, General Purpose, Common No. 24 [C7911] - and/or Shop Equipment, General Purpose, Common No. 34 [C7913] - and/or General Mechanics Tool Kit (GMTK) [C7915] - and/or Shop Equipment, General Purpose, Common No. 30 [C7930]
100kW Electrical Load Bank [B0579]
Degraded/deadlined generator set

# MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI]) Fuel

1142-MANT-1468: Repair a generator set fuel system

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, tools, forms, and references.

**STANDARD:** So generator functions/operates as specified in equipment's technical manual(s) and repairs are documented per TM 4700-15/1H.

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review Service Request (SR).
- 3. Inventory parts from layette.
- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE).
- 6. Ensure equipment is grounded.
- 7. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 8. Remove faulty part(s).
- 9. Prepare area(s) for new part(s).
- 10. Attach new part(s), making necessary adjustments.
- 11. Test repairs.

# 12. Document repairs.

## PREREQUISITE EVENTS:

| 1142-ADMN-1001 | 1142-ADMN-1002 | 1142-ADMN-1006 |
|----------------|----------------|----------------|
| 1142-ADMN-1008 | 1142-ADMN-1011 | 1142-MANT-1142 |
|                |                |                |

1142-MANT-1351

# RELATED EVENTS:

1142-MANT-1451 1142-MANT-1466 1142-MANT-1467

1142-MANT-1469

#### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Shop Equipment, General Purpose, Common No. 24 [C7911] - and/or -

Shop Equipment, General Purpose, Common No. 34 [C7913] - and/or -

General Mechanics Tool Kit (GMTK) [C7915] - and/or -

Shop Equipment, General Purpose, Common No. 30 [C7930]

100kW Electrical Load Bank [B0579]

Degraded/deadlined generator set

# MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

Fuel

1142-MANT-1469: Repair a generator set lubrication system

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, tools, forms, and references.

**STANDARD:** So generator functions/operates as specified in equipment's technical manual(s) and repairs are documented per TM 4700-15/1H.

## PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review Service Request (SR).
- 3. Inventory parts from layette.
- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE).
- 6. Ensure equipment is grounded.
- 7. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 8. Remove faulty part(s).
- 9. Prepare area(s) for new part(s).
- 10. Attach new part(s), making necessary adjustments.
- 11. Test repairs.
- 12. Document repairs.

## PREREQUISITE EVENTS:

| 1142-ADMN-1001 | 1142-ADMN-1002 | 1142-ADMN-1006 |
|----------------|----------------|----------------|
| 1142-ADMN-1008 | 1142-ADMN-1011 | 1142-MANT-1142 |
| 1142-MANT-1351 |                |                |

## RELATED EVENTS:

| 1142-MANT-1451 | 1142-MANT-1466 | 1142-MANT-1467 |
|----------------|----------------|----------------|
| 1142-MANT-1468 |                |                |

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

```
Personal Protective Equipment (PPE)

Shop Equipment, General Purpose, Common No. 24 [C7911] - and/or -
Shop Equipment, General Purpose, Common No. 34 [C7913] - and/or -
General Mechanics Tool Kit (GMTK) [C7915] - and/or -
Shop Equipment, General Purpose, Common No. 30 [C7930]
100kW Electrical Load Bank [B0579]
Degraded/deadlined generator set
```

### MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI]) Fuel

1142-MANT-1493: Connect electric motor control circuits

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment containing an electric motor, electrical power source, parts, and references.

**STANDARD:** So positive control of electric motor is established in accordance with equipment manual(s).

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review references.
- 3. Don Personal Protective Equipment (PPE).
- 4. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 5. Identify motor type (single-phase, three-phase, split phase, capacitor start).
- 6. Determine motor voltage requirements.
- 7. Determine type of motor control required.
- 8. Wire motor control to electric motor circuit(s).
- 9. Inspect wiring.
- 10. Ensure motor is grounded/bonded.
- 11. Test motor operation.

#### PREREQUISITE EVENTS:

| 1142-ADMN-1001 | 1142-ADMN-1002 | 1142-ADMN-1006 |
|----------------|----------------|----------------|
| 1142-MANT-1101 |                |                |

# RELATED EVENTS:

| 1141-XENG-1692 | 1141-XENG-1693 | 1142-MANT-1108 |
|----------------|----------------|----------------|
| 1142-MANT-1109 | 1142-MANT-1392 |                |

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. EMC Electric Motor Controls by American Technical Publishers, Inc.
- 3. EMR Electric Motor Repair, Third Addition
- 4. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 5. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 6. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 7. TC 9-60 Communications-Electronics Fundamentals, Basic Principles of Alternating Current and Direct Current
- 8. TC 9-62 Communications-Electronics Fundamentals, Solid State Devices and Solid State Power Supplies and Amplifiers
- 9. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 10. TM 2000-15/4 Power System Reference Manual
- 11. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)

Multimeter [H7030] Anti-Static Wrist Strap (if required) General Mechanics Tool Kit (GMTK) [C7915] Equipment with an electric motor Electric motor controls

### MATERIAL:

Parts Wire

Connector(s)

OTHER SUPPORT REQUIREMENTS: Electrical power source

9004. 2000-LEVEL EVENTS

1142-ADMN-2021: Apply safety programs

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With resources and references.

**STANDARD:** So applicable safety measures and procedures are in place and enforced.

# PERFORMANCE STEPS:

- 1. Review references.
- 2. Identify equipment safety requirements.
- 3. Identify personnel safety requirements.
- 4. Conduct Operational Risk Assessments.
- 5. Implement safety procedures.
- 6. Conduct safety awareness training.
- 7. Evaluate safety programs.
- 8. Enforce safety regulations.
- 9. Provide input for/submit required reports.

#### PREREQUISITE EVENTS:

1142-ADMN-1001 1142-ADMN-1002

#### RELATED EVENTS:

1141-ADMN-2021 1161-ADMN-2021 1171-ADMN-2021

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO 3500.27\_ Operational Risk Management (ORM)
- 3. MCO 5100.19\_ Marine Corps Traffic Safety Program (Drivesafe)
- 4. MCO 5100.29\_ Marine Corps Safety Program
- 5. MCO 5100.30\_ Marine Corps Recreation and Off-Duty Safety (RODS) Program

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- 6. MCO 5100.34\_ Deadline Safety of Use Message Instructions to Suspend Operations of Marine Corps Ground Equipment and Weapons Systems and Safety of Use Alerts
- 7. MCO 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Policy Order
- 8. MCO  $5104.2_{\rm Marine}$  Corps Radiofrequency Electromagnetic Field Personnel Protection Program
- 9. MCO 5104.3\_ Marine Corps Radiation Safety Program
- 10. MCO P5102.1\_ Navy and Marine Corps Mishap and Safety Investigation Reporting and Record Keeping Manual
- 11. NAVMC DIR 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Program Manual
- 12. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 13. UNIT SOP Unit's Standing Operating Procedures

1142-ADMN-2022: Apply environmental regulations

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With references.

STANDARD: So environmental policies and procedures will be adhered to.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Verify section's compliance with applicable environmental regulations and restrictions.
- 3. Monitor platoon/section hazardous material disposal program.
- 4. Maintain hazardous materials storage areas.
- 5. Maintain Material Safety Data Sheets (MSDS).
- 6. Report any situations that require reporting.

PREREQUISITE EVENTS: 1142-ADMN-1004

# RELATED EVENTS:

1141-ADMN-2022 1161-ADMN-2022 1171-ADMN-2022

# REFERENCES:

- 1. INSTALLATION SOP Installation's Standing Operating Procedures
- 2. MCO 4450.12\_ Storage and Handling of Hazardous Materials
- 3. MCO P5090.2 Environmental Compliance and Protection Manual
- 4. MCRP 4-11B Environmental Considerations
- 5. OPNAVINST 5090.1\_ Environmental Readiness Program Manual

# 1142-ADMN-2023: Conduct MOS training

NAVMC 3500.12B 22 Jan 2014

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** MOS is Military Occupational Specialty.

BILLETS: Engineer Equipment Electrical Systems Technician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With training resources, records, and references.

STANDARD: So MOS proficiency is maintained.

# PERFORMANCE STEPS:

1. Review references.

- 2. Identify individual training requirements (review T&R Manual and MOS Roadmaps).
- 3. Identify unit training requirements (review unit METL/Commander's intent).
- 4. Determine on the job and sustainment training requirements by grade and MOS.
- 5. Develop lesson plans.
- 6. Develop training methods/aids/materials (as required).
- 7. Conduct training.
- 8. Document training.
- 9. Encourage use of self-directed study and assist in providing resources.

#### RELATED EVENTS:

1141-ADMN-2023 1161-ADMN-2023 1171-ADMN-2023

#### **REFERENCES:**

- 1. MCO 1553.3\_ Unit Training Management (UTM) Program
- 2. MCO 1553.4 Professional Military Education (PME)
- 3. MCO 3500.26\_ Universal Naval Task List (UNTL) Version 3.0
- 4. MCRP 3-0A Unit Training Management Guide
- 5. MCRP 3-0B How to Conduct Training
- 6. NAVMC 1553.1\_ Systems Approach to Training (SAT) Users Guide
- 7. NAVMC 3500.12 Marine Corps Engineer and Utilities Training and Readiness Manual
- 8. OPNAVINST 1560.10\_ Administration of the United Services Military Apprenticeship Program (USMAP)
- 9. UNIT SOP Unit's Standing Operating Procedures

1142-ADMN-2041: Initiate a PQDR

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** PQDR is Product Quality Deficiency Report (SF 368).

BILLETS: Engineer Equipment Electrical Systems Technician, Section Head

GRADES: CPL, SGT, SSGT

# INITIAL TRAINING SETTING: FORMAL

CONDITION: With a defective item, blank forms, and references.

STANDARD: So deficiency can be identified.

## PERFORMANCE STEPS:

- 1. Review references.
- 2. Collect data.
- 3. Verify deficiency requires a PQDR.
- 4. Determine if deficiency is Category I or Category II.
- 5. Establish exhibit controls using DD Forms 1575 and 2332 (if required).
- 6. Complete PQDR.
- 7. Submit PQDR per Unit SOP.

## RELATED EVENTS:

1141-ADMN-2041 1161-ADMN-2041 1171-ADMN-2041

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO 4855.10\_ Product Quality Deficiency Report (PQDR)
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures
- 4. UNIT SOP Unit's Standing Operating Procedures

## SUPPORT REQUIREMENTS:

### MATERIAL:

- DD Form 1575 (Suspended Tag Materiel)
- DD Form 2332 (Product Quality Deficiency Report Exhibit)
- SF 368 (Product Quality Deficiency Report [PQDR])

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Additional information for this event can be found at http://www.logcom.usmc.mil/pqdr.

1142-ADMN-2051: Establish equipment preventive maintenance schedule

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Engineer Equipment Electrical Systems Technician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment records, forms, and references.

STANDARD: So operational readiness of equipment is maintained.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Determine equipment Preventive Maintenance Checks and Services (PMCS)

requirements.

- 3. Audit equipment records.
- 4. Complete PMCS roster (NAVMC 10561).

## PREREQUISITE EVENTS:

1142-ADMN-1006 1142-ADMN-1011

### RELATED EVENTS:

1141-ADMN-2051 1161-ADMN-2051 1171-ADMN-2051

## REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCO P4790.2 MIMMS Field Procedures Manual
- 3. MCWP 4-11.4 Maintenance Operations
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. UNIT SOP Unit's Standing Operating Procedures

# SUPPORT REQUIREMENTS:

### MATERIAL:

NAVMC 10561 (Preventive Maintenance Checks and Services (PMCS) Roster) Equipment records

1142-ADMN-2061: Maintain PEB

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**DESCRIPTION:** PEB is Pre-Expended Bin.

BILLETS: Engineer Equipment Electrical Systems Technician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With commander's pre-expended bin authorization and references.

**STANDARD:** So common, low-cost, high usage parts are continuously available for immediate maintenance/repair of equipment.

# PERFORMANCE STEPS:

- 1. Review references.
- 2. Identify criteria for items placed in PEB.
- 3. Validate authorized PEB listing, ensuring it is signed annually by the commander.
- 4. Identify accountability requirements.
- 5. Requisition replacement parts, as required.
- 6. Roll back/dispose excess items.

# RELATED EVENTS:

1141-ADMN-2061 1142-ADMN-2062 1161-ADMN-2061

1171-ADMN-2061

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 3. MCO P4790.2\_ MIMMS Field Procedures Manual
- 4. UNIT SOP Unit's Standing Operating Procedures

## SUPPORT REQUIREMENTS:

MATERIAL: Storage bins

1142-ADMN-2062: Maintain equipment repair parts bins

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With forms and references.

**STANDARD:** So parts are kept in appropriate bin (layette) until maintenance/repair of specified equipment is accomplished.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Receive repair parts, placing repair parts in appropriate bin.
- 3. Update Service Request (SR).
- 4. Take corrective action if repair parts do not match requisitions.
- 5. Inventory bin every 2 weeks.
- 6. Issue repair parts when all are received, updating SR per unit's SOP.
- 7. Debrief task in GCSS-MC.

# RELATED EVENTS:

1141-ADMN-2062 1142-ADMN-2061 1161-ADMN-2062 1171-ADMN-2062

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. MCO P4790.2\_ MIMMS Field Procedures Manual
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures
- 6. UNIT SOP Unit's Standing Operating Procedures

### SUPPORT REQUIREMENTS:

# MATERIAL:

Storage bins

Forms

1142-ADMN-2071: Monitor maintenance management reports

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: With access to Global Combat Support System-Marine Corps (GCSS-MC), maintenance management reports, supporting documentation, and references.

**STANDARD:** So accuracy of maintenance management reports is validated and unit's readiness and equipment serviceability are enhanced.

# PERFORMANCE STEPS:

- 1. Obtain current Maintenance Process Report (MPR).
- 2. Review references.
- 3. Review supporting documentation (equipment records).
- 4. Review MPR maintenance cycle times.
- 5. Validate daily maintenance reports.
- 6. Validate weekly maintenance reports.
- 7. Validate readiness reports.
- 8. Identify "exceptions."
- 9. Determine actions (if any) to correct "exceptions."
- 10. Make corrections (if any) to Service Requests (SR).
- 11. Debrief SRs.

## PREREQUISITE EVENTS:

| 1142-ADMN-1006 | 1142-ADMN-1007 | 1142-ADMN-1008 |
|----------------|----------------|----------------|
| 1142-ADMN-1009 | 1142-ADMN-1010 | 1142-ADMN-1011 |

# RELATED EVENTS:

| 1141-ADMN-2071 | 1142-ADMN-2061 | 1142-ADMN-2062 |
|----------------|----------------|----------------|
| 1142-ADMN-2072 | 1161-ADMN-2071 | 1171-ADMN-2071 |

## REFERENCES:

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 4. MCO 3000.11\_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
- 5. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
- 6. MCO P4790.2\_ MIMMS Field Procedures Manual
- 7. TM 4700-15/1 Ground Equipment Record Procedures
- 8. UNIT SOP Unit's Standing Operating Procedures

# SUPPORT REQUIREMENTS:

MATERIAL: Maintenance Process Report (MPR)

1142-ADMN-2072: Monitor maintenance related programs

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, equipment records, and references.

STANDARD: So unit's readiness and equipment serviceability are enhanced.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Determine unit's maintenance program requirements.
- 3. Inspect equipment.
- 4. Monitor Modification Control program.
- 5. Monitor Calibration Control program.
- 6. Monitor New Equipment Warranty program.
- 7. Monitor Quality Deficiency (QDR) program.
- 8. Monitor Recoverable Items (WIR) program.
- 9. Monitor Quality Control (QC) program.
- 10. Monitor Corrosion Prevention and Control (CPAC) program.
- 11. Ensure program and equipment records are maintained.

### **RELATED EVENTS:**

| 1141-ADMN-2072 | 1142-ADMN-2041 | 1142-ADMN-2051 |
|----------------|----------------|----------------|
| 1142-ADMN-2071 | 1142-ADMN-2073 | 1161-ADMN-2072 |
| 1169-ADMN-2072 | 1171-ADMN-2072 |                |

### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCO 4400.194\_ Marine Corps Class VII Stock Rotation Policy
- 3. MCO 4733.1\_ Marine Corps Test, Measurement, and Diagnostics Equipment (TMDE) Calibration and Maintenance Program (CAMP)
- 4. MCO 4790.18\_ Corrosion Prevention and Control (CPAC) Program
- 5. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 6. MCO P4400.82 Regulated/Controlled Item Management Manual
- 7. MCO P4790.2\_ MIMMS Field Procedures Manual
- 8. TI 4733-OD/1\_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
- 9. TM 4700-15/1\_ Ground Equipment Record Procedures
- $10.\ \mathrm{TM}\ 750\text{-}245\text{-}4\ \mathrm{Direct}\ \mathrm{Support}$ , General Support Quality Control Inspector's Inspection Criteria
- 11. Unit SOP Unit's Standing Operating Procedures

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Some programs listed above may not be required at all units.

1142-ADMN-2073: Inspect maintenance actions (quality control)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Engineer Equipment Electrical Systems Technician, Quality Control

NCO

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With repaired equipment, equipment records and references.

STANDARD: So equipment repairs and documentation are certified complete.

## PERFORMANCE STEPS:

1. Review references.

- 2. Review Service Request (SR).
- 3. Verify equipment's operational condition.
- 4. Reject faulty equipment.
- 5. Verify equipment closeout.
- 6. Verify completion of maintenance actions.

### PREREQUISITE EVENTS:

1142-ADMN-1006 1142-ADMN-1008

# RELATED EVENTS:

1141-ADMN-2073 1142-ADMN-1009 1142-ADMN-1011 1161-ADMN-2073 1171-ADMN-2073

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. MCO P4790.2\_ MIMMS Field Procedures Manual
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures
- 6. TM 750-245-4 Direct Support, General Support Quality Control Inspector's Inspection Criteria

### SUPPORT REQUIREMENTS:

**EQUIPMENT:** Repaired equipment

MATERIAL: NAVMC 696D (Motor Vehicle and Engineer Equipment Record Folder)

OTHER SUPPORT REQUIREMENTS: Access to Global Combat Support System-Marine

Corps (GCSS-MC)

1142-MANT-2191: Comply with a Modification Instruction (MI)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 24 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With a Service Request (SR) on effected equipment, the effected equipment, a Modification Instruction (MI), parts, tools, forms, and references.

STANDARD: Per the MI and TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Review MI.
- 2. Review Service Request (SR).
- 3. Inventory parts from layette.
- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE) (if required).
- 6. Apply modification.
- 7. Test modification.
- 8. Document modification.

PREREQUISITE EVENTS: 1142-ADMN-1006

# RELATED EVENTS:

1142-ADMN-1008 1141-MANT-2191 1142-ADMN-1010 1142-ADMN-1011 1161-MANT-2191 1171-MANT-2191

### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE) General Mechanics Tool Kit (GMTK) [C7915] Equipment being modified

## MATERIAL:

Modification Instruction (MI)

Parts (if required)

NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)

NAVMC 696D (Motor Vehicle and Engineer Equipment Record Folder)

1142-MANT-2199: Mount/dismount a generator set on a trailer

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With a generator set, trailer, personnel, forklift or crane and operator, tools, and references.

 $\underline{\mathtt{STANDARD}}$ : So trailer can be safely transported/towed in support of unit's mission.

# PERFORMANCE STEPS:

- 1. Review references.
- 2. Assess operational risk.
- 3. Don Personal Protective Equipment (PPE).
- 4. Prepare equipment.
- 5. Lift generator set on to trailer.
- 6. Fasten generator set to trailer.
- 7. Reverse procedure to dismount generator set.

**RELATED EVENTS:** 1141-MANT-2199

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MI 6115-24/24D Trailer Mounting of 10kW, MEP-003A, MEP-112A, MEP-803A, MEP-813A Generators on M116A2/3 Series Trailer
- 3. MI 6115-OI/25C Trailer Mounting of 3kW, MEP-831A Generators on M116A2/3 Series Trailer
- 4. MI 6115-OR/26A Trailer Mounting of Tactical Quiet Generators (TQG), 60 Kilowatt 60 Hertz (MEP-806A/B) or 60 Kilowatt 400 Hertz (MEP-816A/B) on M353 Trailer
- 5. MI 6115-OR/27A Trailer Mounting of Tactical Quiet Generators (TQG), 30 Kilowatt 60 Hertz (MEP-805A/B) or 30 Kilowatt 400 Hertz (MEP-815A/B) on M353 Trailer

## SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Forklift or crane (with capacity to lift generator)
Generator
Trailer

MATERIAL: Fasteners to hold generator on trailer

# UNITS/PERSONNEL:

MOS 1345 (Engineer Equipment Operator) to operate forklift or crane Personnel (any MOS) to help place generator

1142-MANT-2308: Diagnose an electrical starter malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: CPL, SGT, SSGT

# INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, electrical power source, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective action(s) initiated.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review LTI.
- 3. Review equipment technical manuals.
- 4. Don Personal Protective Equipment (PPE).
- 5. Identify faulty component(s).
- 6. Determine if component fault was caused by a defect elsewhere.
- 7. Document findings (complete LTI/update Service Request).
- 8. Order parts (if required).

### PREREQUISITE EVENTS:

1142-ADMN-1001 1142-ADMN-1006 1142-MANT-1101

### RELATED EVENTS:

1142-ADMN-1008 1142-ADMN-1010 1142-ADMN-1011

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 5. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 6. TM 2000-15/4 Power System Reference Manual
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures

# **SUPPORT REQUIREMENTS:**

## **EQUIPMENT:**

Personal Protective Equipment (PPE)

Multimeter [H7030]

General Mechanics Tool Kit (GMTK) [C7915]

Faulty electrical starter

MATERIAL: NAVMC 10560 (Worksheet for Preventive Maintenance and Technical
Inspection for Engineer Equipment [LTI])

OTHER SUPPORT REQUIREMENTS: Electrical power source will be required.

1142-MANT-2309: Diagnose an alternator malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective action(s) initiated.

## PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review LTI.
- 3. Review equipment technical manuals.
- 4. Don Personal Protective Equipment (PPE).
- 5. Identify faulty component(s).
- 6. Determine if component fault was caused by a defect elsewhere.
- 7. Document findings (complete LTI/update Service Request).
- 8. Order parts (if required).

## PREREQUISITE EVENTS:

1142-ADMN-1001 1142-ADMN-1006 1142-MANT-1101

### RELATED EVENTS:

1142-ADMN-1008 1142-ADMN-1010 1142-ADMN-1011

### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 5. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 6. TM 2000-15/4 Power System Reference Manual
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)
Multimeter [H7030]
Geneval Markenias Wash (CMWW) [G

General Mechanics Tool Kit (GMTK) [C7915]

Special tool(s) (if required)

Faulty alternator

MATERIAL: NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

1142-MANT-2311: Diagnose an ECU electrical system malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: ECU is Environmental Control Unit.

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, electrical power source, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective action(s) initiated.

#### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FROST BITE HAZARD(S).
- 3. Review LTI.
- 4. Review equipment technical manuals/wiring diagrams/schematics.
- 5. Don Personal Protective Equipment (PPE).
- 6. Ensure equipment is grounded.
- 7. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 8. Check switches/gauges for correct settings.
- 9. Isolate faulty circuit(s).
- 10. Trace current/voltage paths in circuits.
- 11. Isolate faulty component(s).
- 12. Determine if component fault was caused by a defect elsewhere (repeating steps 9, 10, and/or 11 as required).
- 13. Determine echelon(s) of maintenance.
- 14. Document findings (complete LTI/update Service Request).
- 15. Order parts (if required).

### PREREQUISITE EVENTS:

1142-ADMN-1001 1142-ADMN-1002 1142-ADMN-1006 1142-MANT-1101

### RELATED EVENTS:

1142-ADMN-1010 1142-ADMN-1011 1161-MANT-1311

# **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. DP 10230 Disposal Plan for the Military Standard Environmental Control Equipment
- 3. DP 4120 Disposal Plan for the  $400\mathrm{Hz}$  Environmental Control Units/Vertical Skids
- 4. FP 11079A/11079B Fielding Plan for the Environmental Control Unit (ECU) TAMCN B0010 (10 Ton)
- 5. FP 11080A Fielding Plan for the Environmental Control Unit (ECU) TAMCN B0003 (1.5 Ton)
- 6. FP 11082A Fielding Plan for the Environmental Control Unit (ECU) TAMCN B0014 (3 Ton)
- 7. FP 11084A Fielding Plan for the Environmental Control Unit (ECU) TAMCN B0008 (5 Ton)

- 8. FP 11453A Fielding Plan for the Environmental Control Unit (ECU) TAMCN  ${\tt B0074}$  (.75 Ton)
- 9. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 10. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 11. MI 11082A-OI Installation Instructions for Installing Wye-Duct Adaptor on the AN/TPS-63B (A1300) When Using 3 Ton Environmental Control Unit (B0014)
- 12. SI 4120-OI/3B Warranty Procedures for the Family of Marine Corps
- 12. SI 4120-01/3B Warranty Procedures for the Family of Marine Corps Environmental Control Units
- 13. SL-3-4120 Components List for Family of Environmental Control Units
- 14. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 15. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 16. TM 11079A/11079B-OI Operator and Field Maintenance Manual Including Repair Parts and Special Tools List (RPSTL) for Environmental Control Unit, 10 Ton, 120,000 BTU (120K ECU)
- 17. TM 11080A/11080B-OI Operation and Unit Maintenance Instructions with Illustrated Parts Breakdown for Environmental Control Unit, 1.5-Ton, 18,000 BTU
- 18. TM 11082A/11082B-OI Operator and Field Maintenance Manual Including Repair Parts and Special Tools List (RPSTL) for Environmental Control Unit, 3 Ton, 36,000 BTU/hr (36K ECU)
- 19. TM 11084A/11084B-OI Operator and Field Maintenance Manual Including Repair Parts and Special Tools List (RPSTL) for Environmental Control Unit, 5-Ton,  $60,000\ BTU/hr$  ( $60K\ ECU$ )
- 20. TM 11453A/11453B-OI Operation and Unit Maintenance Instructions with Illustrated Parts Breakdown for Environmental Control Unit, .75-Ton, 9,000 BTU/hr (9K ECU)
- 21. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE) General Mechanics Tool Kit (GMTK) [C7915] Multimeter [H7030] Anti-Static Wrist Strap Faulty ECU or components

MATERIAL: NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

<u>UNITS/PERSONNEL</u>: MOS 1161 (Refrigeration and Air Conditioning Technician) to facilitate troubleshooting process.

OTHER SUPPORT REQUIREMENTS: Electrical power source may be required

### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Graduates of the Advanced Engineer Equipment Electrical Systems Technician Course (CID: M03A212) WILL NOT BE certified by the Environmental Protection Agency (EPA) to handle refrigerants.

1142-MANT-2318: Diagnose an ITEG electrical system malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

### **DESCRIPTION:**

ITEG is Integrated Trailer/ECU/Generator.

ECU is Environmental Control Unit.

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective action(s) initiated.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Identify FROST BITE HAZARD(S).
- 5. Review LTI.
- 6. Review equipment technical manuals/wiring diagrams/schematics.
- 7. Don Personal Protective Equipment (PPE).
- 8. Ensure equipment is grounded.
- 9. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 10. Check switches/gauges for correct settings.
- 11. Determine if malfunction is ECU or generator related.
- 12. Determine if malfunction is electrical or mechanical.
- 13. Isolate faulty circuit(s).
- 14. Trace current/voltage paths in circuits.
- 15. Isolate faulty component(s).
- 16. Determine if component fault was caused by a defect elsewhere (repeating steps 10, 11, 12, 13, 14 and/or 15 as required).
- 17. Determine echelon(s) of maintenance.
- 18. Document findings (complete LTI/update Service Request).
- 19. Order parts (if required).

# PREREQUISITE EVENTS:

| 1142-ADMN-1001 | 1142-ADMN-1002 | 1142-ADMN-1006 |
|----------------|----------------|----------------|
| 1142-MANT-1101 | 1142-MANT-1106 | 1142-MANT-1142 |

#### RELATED EVENTS:

| 1141-MANT-2218 | 1142-ADMN-1008 | 1142-ADMN-1010 |
|----------------|----------------|----------------|
| 1142-ADMN-1011 | 1142-MANT-1351 | 1142-MANT-2311 |
| 1161-MANT-1218 | 1161-MANT-1318 |                |

### REFERENCES:

- 1. FP 11490A Fielding Plan for Integrated Trailer Environmental Control Unit & Generator (ITEG)
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid

- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. SI 11490A-OI Warranty Procedures for the Integrated Trailer-ECU-Generator
- 5. SL-3-11490A Components List for Integrated Trailer, Environmental Control Unit, Generator (ITEG)
- 6. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 7. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 8. TM 11490A-OR Operation Manual with Repair Parts List, Integrated Trailer-ECU-Generator (ITEG)
- 9. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Multimeter [H7030]
Anti-Static Wrist Strap

Faulty Integrated Trailer/ECU/Generator (ITEG) [B0018] or components

#### MATERIAL:

 $\overline{\text{NAVMC}}$   $\overline{10}560$  (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

<u>UNITS/PERSONNEL</u>: MOS 1161 (Refrigeration and Air Conditioning Technician) to facilitate troubleshooting process on ECU portion of ITEG.

### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Graduates of the Advanced Engineer Equipment Electrical Systems Technician Course (CID: M03A212) WILL NOT BE certified by the Environmental Protection Agency (EPA) to handle refrigerants.

<u>1142-MANT-2327</u>: Diagnose a tactical refrigeration equipment electrical system malfunction

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 24 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, electrical power source, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective action(s) initiated.

# PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FROST BITE HAZARD(S).
- 3. Review LTI.
- 4. Review equipment technical manuals/wiring diagrams/schematics.
- 5. Don Personal Protective Equipment (PPE).
- 6. Ensure equipment is grounded.
- 7. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 8. Check switches/gauges for correct settings.
- 9. Isolate faulty circuit(s).
- 10. Trace current/voltage paths in circuits.
- 11. Isolate faulty component(s).
- 12. Determine if component fault was caused by a defect elsewhere (repeating steps 9, 10, and/or 11 as required).
- 13. Determine echelon(s) of maintenance.
- 14. Document findings (complete LTI/update Service Request).
- 15. Order parts (if required).

# PREREQUISITE EVENTS:

1142-ADMN-1001 1142-ADMN-1002 1142-ADMN-1006 1142-MANT-1101

# RELATED EVENTS:

1142-ADMN-1008 1142-ADMN-1010 1142-ADMN-1011

#### **REFERENCES:**

- $\overline{1}$ . FP  $11\overline{5}74A/11609A$  Fielding Plan for the Field Refrigeration Systems TAMCN B00497B and B00757B
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. SI 11574A/11609A-OI Warranty Procedures for Field Refrigeration System
- 5. SL-3-11574A Components List for Large Field Refrigeration System
- 6. SL-3-11609A Components List for Small Field Refrigeration System
- 7. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 8. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 9. TM 11574A-OI Operation and Unit Maintenance Instructions with Illustrated Parts Breakdown for Large Field Refrigeration System
- 10. TM 11609A-OI Operation and Unit Maintenance Instructions with Illustrated Parts Breakdown for Small Field Refrigeration System
- 11. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Multimeter [H7030)
Anti-Static Wrist Strap
Faulty refrigeration equipment or components

<u>MATERIAL</u>: NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

<u>UNITS/PERSONNEL</u>: MOS 1161 (Refrigeration and Air Conditioning Technician) to facilitate troubleshooting process.

OTHER SUPPORT REQUIREMENTS: Electrical power source will be required

### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Engineer Equipment Electrical Systems Technicians ARE NOT certified (at Marine Corps Engineer School) by the Environmental Protection Agency (EPA) to handle refrigerants.

1142-MANT-2332: Diagnose a CBL washer/dryer electrical malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: CBL is Containerized Batch Laundry Unit.

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, electrical power source, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective action(s) initiated.

# PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify GRAYWATER HAZARD(S).
- 3. Review LTI.
- 4. Review equipment technical manuals/wiring diagrams/schematics.
- 5. Don Personal Protective Equipment (PPE).
- 6. Ensure equipment is grounded.
- 7. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 8. Check switches/gauges for correct settings.
- 9. Isolate faulty circuit(s).
- 10. Trace current/voltage paths in circuits.
- 11. Isolate faulty component(s).
- 12. Determine if component fault was caused by a defect elsewhere (repeating steps 9, 10, and/or 11 as required).
- 13. Determine echelon(s) of maintenance.
- 14. Document findings (complete LTI/update Service Request).
- 15. Order parts (if required).

# PREREQUISITE EVENTS:

1142-ADMN-1001 1142-ADMN-1002 1142-ADMN-1006 1142-MANT-1101 1142-MANT-1106 RELATED EVENTS:

1142-ADMN-1008 1142-ADMN-1010 1142-ADMN-1011 1142-MANT-1331 1171-MANT-1331 1171-MANT-1332

## REFERENCES:

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. SI 11413A Warranty Procedures for the Containerized Batch Laundry
- 4. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 5.  $TM 10209-10/1_Use$  and Care of Hand Tools and Measuring Tools
- 6. TM 11413A-OI/1 Operator/Maintenance Manual Instructions with Repair Parts and Special Tools List (RPSTL) for Containerized Batch Laundry
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Multimeter [H7030]

General Mechanics Tool Kit (GMTK) [C7915]

Faulty washer or dryer

MATERIAL: NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

<u>UNITS/PERSONNEL</u>: MOS 1171 (Water Support Technician) to facilitate troubleshooting process

OTHER SUPPORT REQUIREMENTS: Electrical power source may be required

1142-MANT-2338: Diagnose an M26 JSTDS-SS electrical system malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: JSTDS-SS is Joint Service Transportable Decontamination System-Small Scale.

BILLETS: Engineer Equipment Electrical Systems Technician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective action(s) initiated.

# PERFORMANCE STEPS:

- 1. Identify ELECTRIC SHOCK HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).

- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review LTI.
- 5. Review equipment technical manuals/wiring diagrams/schematics.
- 6. Don Personal Protective Equipment (PPE).
- 7. Ensure equipment is grounded.
- 8. Ensure any hazardous energy is controlled (Lockout/Tagout) (if required).
- 9. Check switches/gauges for correct settings.
- 10. Isolate faulty circuit(s).
- 11. Trace current/voltage paths in circuits.
- 12. Isolate faulty component(s).
- 13. Determine if component fault was caused by a defect elsewhere (repeating steps 10, 11, and/or 12 as required).
- 14. Determine echelon(s) of maintenance.
- 15. Document findings (complete LTI/update Service Request).
- 16. Order parts (if required).

# PREREQUISITE EVENTS:

1142-ADMN-1001 1142-ADMN-1002 1142-ADMN-1006 1142-MANT-1101

## RELATED EVENTS:

1142-ADMN-1008 1142-ADMN-1010 1142-ADMN-1011 1171-MANT-2338

#### REFERENCES:

- 1. FP 12112A Fielding Plan for the Joint Service Transportable Decontamination System, Small Scale
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 5. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 6. TM 12112A-OR Operator Manual for Decontaminating Apparatus: Joint Service Transportable Small Scale, M26  $\,$
- 7. TM 3-4230-238-23&P Field Maintenance Manual Including Repair Parts and Special Tools List for Decontaminating Apparatus: Joint Service Transportable Small Scale, M26
- 8. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)
Multimeter [H7030]
General Mechanics Tool Kit (GMTK) [C7915]
Faulty M26 JSTDS-SS or components

#### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])
Fuel

<u>UNITS/PERSONNEL</u>: MOS 5711 (Nuclear, Biological, and Chemical Defense Marine) to facilitate troubleshooting process

1142-MANT-2347: Diagnose a floodlight set malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective action(s) initiated.

## PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review LTI.
- 5. Review equipment technical manuals/wiring diagrams/schematics.
- 6. Don Personal Protective Equipment (PPE).
- 7. Ensure equipment is grounded.
- 8. Check switches/gauges for correct settings.
- 9. Isolate faulty circuit(s).
- 10. Trace current/voltage paths in circuits.
- 11. Isolate faulty component(s).
- 12. Determine if component fault was caused by a defect elsewhere (repeating steps 9, 10, and/or 11 as required).
- 13. Determine echelon(s) of maintenance.
- 14. Document findings (complete LTI/update Service Request).
- 15. Order parts (if required).

# PREREQUISITE EVENTS:

1142-ADMN-1001 1142-ADMN-1002 1142-ADMN-1006 1142-MANT-1101

# RELATED EVENTS:

1141-MANT-1247 1142-ADMN-1008 1142-ADMN-1010 1142-ADMN-1011

#### **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. MI 11120A-OI/1 Installation of Safety Modification Kit for the USMC Floodlight Set (FLS)(Model MLT5060MIT)
- 4. MI 11120A-OI/2 Modifications of the USMC Floodlight Set, Model MLT5060MIT
- 5. SI 11120A-OI/1 Warranty Procedures for B0640 Floodlight Set
- 6. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 7. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 8. TM 11120A-OI Operation/Maintenance Manual with Repair Parts List for Floodlight Set (Model MLT5060MIT)

9. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Multimeter [H7030]
General Mechanics Tool Kit (GMTK) [C7915]
Faulty Floodlight Set [B0640] or components

### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])
Fuel

1142-MANT-2354: Diagnose a MMG-25 20kW 60Hz Generator Set Synchronizer Box malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective action(s) initiated.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review the LTI.
- 3. Review equipment technical manuals/wiring diagrams/schematics.
- 4. Don Personal Protective Equipment (PPE).
- 5. Ensure equipment is grounded.
- 6. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 7. Check switches/gauges for correct settings.
- 8. Isolate faulty circuit(s).
- 9. Trace current/voltage paths in circuits.
- 10. Isolate faulty component(s).
- 11. Determine if component fault was caused by a defect elsewhere (repeating steps 8, 9, and/or 10 as required).
- 12. Determine echelon(s) of maintenance.
- 13. Document findings (complete LTI/update Service Request).
- 14. Order parts (if required).

## PREREQUISITE EVENTS:

1142-ADMN-1001 1142-ADMN-1002 1142-ADMN-1006

RELATED EVENTS:

1141-MANT-2254 1142-ADMN-1008 1142-ADMN-1010

1142-ADMN-1011

## REFERENCES:

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 4. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 5. TM 11125A-OI/A Operation/Maintenance Manual with Repair Parts List for Generator Set, Diesel Engine (Model MMG25)
- 6. TM 4700-15/1 Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Multimeter [H7030]

General Mechanics Tool Kit (GMTK) [C7915]

Anti-Static Wrist Strap (if required)

Faulty MMG-25 20kW 60Hz Generator Set Synchronizer Box

### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI]) Fuel

1142-MANT-2365: Diagnose a MEP-807A 100kW 60Hz Tactical Quiet Generator Set engine malfunction

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective action(s) initiated.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review LTI.
- 5. Review equipment technical manuals/wiring diagrams/schematics.
- 6. Don Personal Protective Equipment (PPE).
- 7. Ensure equipment is grounded.

- 8. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout) (if required).
- 9. Check Digital Voltage Regulator (DVR) and Generator Set Controls (GSC) for correct settings.
- 10. Determine if malfunction is electrical or mechanical.
- 11. Isolate faulty circuit(s).
- 12. Trace current/voltage paths in circuits.
- 13. Isolate faulty component(s).
- 14. Determine if component fault was caused by a defect elsewhere (repeating steps 10, 11, 12, and/or 13 as required).
- 15. Determine echelon(s) of maintenance.
- 16. Document findings (complete LTI/update Service Request).
- 17. Order parts (if required).

## PREREQUISITE EVENTS:

| 1142-ADMN-1001 | 1142-ADMN-1002 | 1142-ADMN-1006 |
|----------------|----------------|----------------|
| 1142-MANT-1101 | 1142-MANT-1142 |                |

### RELATED EVENTS:

| 1141-MANT-1251 | 1142-ADMN-1008 | 1142-ADMN-1010 |
|----------------|----------------|----------------|
| 1142-ADMN-1011 | 1142-MANT-1351 |                |

## REFERENCES:

- 1. FP 07464C Fielding Plan for B1045 MEP-807A 100kW Tactical Quiet Generator (TQG)
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. SI 07464C-OI/1 Warranty Procedures for MEP-807A 100kW Tactical Quiet Generator
- 5. SL-3-6115 Components List for Generator Set, Diesel Engine Driven, Skid Mounted
- 6. TB 11-6115-741-24 Field and Sustainment Maintenance for Tactical Generator Desert Operations Special Test, Inspection, and Repair Requirements
- 7. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 8. TM 07464C-10/1 Operator's Manual for Generator Set, Skid Mounted, Tactical Quiet, 100kW, 50/60Hz, MEP-807A
- 9. TM 07464C-24/2A Field and Sustainment Maintenance Manual for Generator Set, Skid Mounted, Tactical Quiet, 100kW, 50/60Hz, MEP-807A
- 10. TM 07464C-24P/3 Field and Sustainment Maintenance Manual Including Repair Parts and Special Tools List for Generator Set, Skid Mounted, Tactical Quiet, 100kW, 50/60Hz, MEP-807A
- 11. TM 07464C-35 Systems Operation Testing and Adjusting for Caterpillar Generator Sets
- 12. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 13. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Multimeter [H7030]
General Mechanics Tool Kit (GMTK) [C7915]
Anti-Static Wrist Strap

Caterpillar Electronic Technician (CAT-E-Tool)
Faulty MEP-807A 100kW 60Hz Tactical Quiet Generator Set [B1045] or components

## MATERIAL:

DVR/GSC Programming Fault Guide
NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])
Fuel

1142-MANT-2383: Diagnose a TWPS electrical malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: TWPS is Tactical Water Purification System.

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, a 416VAC 60Hz 3-Phase electrical power source, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective action(s) initiated.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify CHEMICAL HAZARD(S).
- 3. Identify FIRE/EXPLOSION HAZARD(S).
- 4. Identify CARBON MONOXIDE HAZARD(S).
- 5. Identify GRAYWATER HAZARD(S).
- 6. Review LTI.
- 7. Review equipment technical manuals/wiring diagrams/schematics.
- 8. Don Personal Protective Equipment (PPE).
- 9. Ensure equipment is grounded.
- 10. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 11. Check switches/gauges for correct settings.
- 12. Isolate faulty circuit(s).
- 13. Trace current/voltage paths in circuits.
- 14. Isolate faulty component(s).
- 15. Determine if component fault was caused by a defect elsewhere (repeating steps 12, 13, and/or 14 as required).
- 16. Determine echelon(s) of maintenance.
- 17. Document findings (complete LTI/update Service Request).
- 18. Order parts (if required).

# PREREQUISITE EVENTS:

1142-ADMN-1001 1142-ADMN-1002 1142-ADMN-1006

1142-MANT-1101 1142-MANT-1106 1142-MANT-1382

RELATED EVENTS:

1142-ADMN-1008 1142-ADMN-1010 1142-ADMN-1011 1171-MANT-1282 1171-MANT-1382 1171-MANT-2397

### REFERENCES:

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. SI 10802A-IN/1 Warranty Procedures for the Marine Corps Tactical Water Purification System (TWPS)
- 4. SI 10802A-OR/2 Supply Instruction for Advance Change Notice to the Marine Corps Tactical Water Purification System (MC-TWPS)
- 5. SI 10802A-OR/3 Supply Instructions for the TWPS Recirculation Kit
- 6. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 7. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 8. TM 10802A-OI/1A Vol 1 Operator Manual for Tactical Water Purification System (TWPS)
- 9. TM 10802A-OI/1A Vol 2 Field Maintenance Manual for Tactical Water Purification System (TWPS)
- 10. TM 10802A-OI/2A Field Maintenance Repair Parts and Special Tools List for Tactical Water Purification System (TWPS)
- 11. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Multimeter [H7030]

General Mechanics Tool Kit (GMTK) [C7915]

Anti-Static Wrist Strap

Faulty 1,500 GPH Tactical Water Purification System (TWPS) [B2605] or components

MATERIAL: NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

<u>UNITS/PERSONNEL</u>: MOS 1171 (Water Support Technician) to facilitate troubleshooting process

OTHER SUPPORT REQUIREMENTS: 416VAC 60Hz 3-Phase electrical power source (normally a 60kW Tactical Generator Set)

1142-MANT-2395: Diagnose an electrical fault on a hydraulic/pneumatic system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective action(s) initiated.

# PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review LTI.
- 3. Review equipment technical manuals/wiring diagrams/schematics.
- 4. Don Personal Protective Equipment (PPE).
- 5. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout) (if required).
- 6. Check levers, valves, switches and/or gauges for correct settings.
- 7. Determine if malfunction is electrical or mechanical.
- 8. Isolate faulty circuit(s).
- 9. Trace current/voltage paths in circuits.
- 10. Isolate faulty component(s).
- 11. Determine if component fault was caused by a defect elsewhere (repeating steps 7, 8, 9, and/or 10 as required).
- 12. Determine echelon(s) of maintenance.
- 13. Document findings (complete LTI/update Service Request).
- 14. Order parts (if required).

## PREREQUISITE EVENTS:

| 1142-ADMN-1001 | 1142-ADMN-1002 | 1142-ADMN-1006 |
|----------------|----------------|----------------|
| 1142-MANT-1101 | 1142-MANT-1106 |                |

### RELATED EVENTS:

1142-ADMN-1008 1142-ADMN-1010 1142-ADMN-1011

# REFERENCES:

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 5. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Multimeter [H7030]
General Mechanics Tool Kit (GMTK) [C7915]
Anti-Static Wrist Strap (if required)
Equipment with faulty hydraulic/pneumatic system

# MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI]) Fuel

<u>UNITS/PERSONNEL</u>: Operator licensed on equipment with faulty hydraulic/pneumatic system.

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: The operator will assist by advising on proper lever, valve, switch and/or gauge settings and on the functions of components controlled by hydraulic/pneumatic system.

1142-MANT-2397: Diagnose a tactical engineer equipment electrical system malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective action(s) initiated.

#### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review LTI.
- 3. Review equipment technical manuals/wiring diagrams/schematics.
- 4. Don Personal Protective Equipment (PPE).
- 5. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout) (if required).
- 6. Check levers, valves, switches and/or gauges for correct settings.
- 7. Determine if malfunction is electrical or mechanical.
- 8. Isolate faulty circuit(s).
- 9. Trace current/voltage paths in circuits.
- 10. Isolate faulty component(s).
- 11. Determine if component fault was caused by a defect elsewhere (repeating steps 7, 8, 9, and/or 10 as required).
- 12. Determine echelon(s) of maintenance.
- 13. Document findings (complete LTI/update Service Request).
- 14. Order parts (if required).

#### PREREQUISITE EVENTS:

1142-ADMN-1001 1142-ADMN-1002 1142-ADMN-1006 1142-MANT-1101 1142-MANT-1106

# RELATED EVENTS:

1142-ADMN-1008 1142-ADMN-1010 1142-ADMN-1011

# REFERENCES:

1. Appropriate Technical Manuals

- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- $4.\ \ \text{TB}\ 385-4$  Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 5. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Multimeter [H7030]
General Mechanics Tool Kit (GMTK) [C7915]

Anti-Static Wrist Strap (if required)

Faulty tactical engineer equipment or components

MATERIAL: NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

 ${\hbox{{\sc units/personnel}}}$ : Operator licensed on equipment with faulty electrical system.

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: The operator will assist by advising on proper lever, valve, switch and/or gauge settings and on the functions of components.

1142-MANT-2408: Repair an electrical starter

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

**GRADES:** CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With a Service Request (SR) on degraded/deadlined equipment, an inoperable starter, electrical power source, repair parts from layette, tools, forms, and references.

**STANDARD:** So starter functions/operates as specified in equipment's technical manual(s) and repairs are documented per TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review Service Request (SR).
- 3. Inventory parts from layette.
- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE).
- 6. Remove faulty part(s).
- 7. Prepare area(s) for new part(s).

- 8. Attach new part(s), making necessary adjustments.
- 9. Test repairs.
- 10. Document repairs.

## PREREQUISITE EVENTS:

| 1142-ADMN-1001 | 1142-ADMN-1002 | 1142-ADMN-1006 |
|----------------|----------------|----------------|
| 1142-ADMN-1008 | 1142-ADMN-1011 | 1142-MANT-1101 |
| 1142-MANT-1108 | 1142-MANT-1109 |                |

**RELATED EVENTS:** 1142-MANT-1451

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 5. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Shop Equipment, General Purpose, Common No. 24 [C7911] - and/or Shop Equipment, General Purpose, Common No. 34 [C7913] - and/or General Mechanics Tool Kit (GMTK) [C7915] - and/or Shop Equipment, General Purpose, Common No. 30 [C7930]
Multimeter [H7030]
Inoperable starter

# MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

OTHER SUPPORT REQUIREMENTS: Electrical power source will be required.

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Graduates of the Advanced Engineer Equipment Electrical Systems Technician Course (CID: M03A212) WILL NOT BE qualified to rewind starters.

1142-MANT-2409: Repair an alternator

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, an inoperable alternator, repair parts from layette, tools, forms, and references.

**STANDARD:** So alternator functions/operates as specified in equipment's technical manual(s) and repairs are documented per TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review Service Request (SR).
- 3. Inventory parts from layette.
- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE).
- 6. Remove faulty part(s).
- 7. Prepare area(s) for new part(s).
- 8. Attach new part(s), making necessary adjustments.
- 9. Test repairs.
- 10. Document repairs.

## PREREQUISITE EVENTS:

| 1142-ADMN-1001 | 1142-ADMN-1006 | 1142-ADMN-1008 |
|----------------|----------------|----------------|
| 1142-ADMN-1011 | 1142-MANT-1101 | 1142-MANT-1108 |
| 1110 1100      |                |                |

1142-MANT-1109

**RELATED EVENTS:** 1142-MANT-1451

# **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 5. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

# **SUPPORT REQUIREMENTS:**

## **EQUIPMENT:**

Personal Protective Equipment (PPE)

Shop Equipment, General Purpose, Common No. 24 [C7911] - and/or -

Shop Equipment, General Purpose, Common No. 34 [C7913] - and/or -

General Mechanics Tool Kit (GMTK) [C7915] - and/or -

Shop Equipment, General Purpose, Common No. 30 [C7930]

Multimeter [H7030]

Inoperable alternator

### MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

## MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Graduates of the Advanced Engineer Equipment

Electrical Systems Technician Course (CID: M03A212) WILL NOT BE qualified to rewind alternators.

1142-MANT-2438: Repair an M26 JSTDS-SS electrical system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: JSTDS-SS is Joint Service Transportable Decontamination System-Small Scale.

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, tools, forms, and references.

**STANDARD:** So JSTDS-SS functions/operates as specified in TM 12112A-OR and repairs are documented per TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Identify ELECTRIC SHOCK HAZARD(S).
- Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review Service Request (SR).
- 5. Inventory parts from layette.
- 6. Review equipment technical manuals.
- 7. Don Personal Protective Equipment (PPE).
- 8. Ensure equipment is grounded.
- 9. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 10. Remove faulty part(s).
- 11. Prepare area(s) for new part(s).
- 12. Attach new part(s), making necessary adjustments.
- 13. Test repairs.
- 14. Document repairs.

# PREREQUISITE EVENTS:

| 1142-ADMN-1001 | 1142-ADMN-1002 | 1142-ADMN-1006 |
|----------------|----------------|----------------|
| 1142-ADMN-1008 | 1142-ADMN-1011 | 1142-MANT-1101 |
| 1142-MANT-1108 | 1142-MANT-1109 | 1142-MANT-2338 |

### RELATED EVENTS:

1171-MANT-2438

# REFERENCES:

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment

- 4. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 5. TM 12112A-OR Operator Manual for Decontaminating Apparatus: Joint Service Transportable Small Scale, M26
- 6. TM 3-4230-238-23&P Field Maintenance Manual Including Repair Parts and Special Tools List for Decontaminating Apparatus: Joint Service Transportable Small Scale, M26
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures

#### SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)
Multimeter [H7030]
General Mechanics Tool Kit (GMTK) [C7915]
Anti-Static Wrist Strap
Degraded/deadlined M26 JSTDS-SS

## MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI]) Fuel

<u>UNITS/PERSONNEL</u>: MOS 5711 (Nuclear, Biological, and Chemical Defense Marine) may be required to facilitate the repair process

1142-MANT-2442: Repair a 100kW Electrical Load Bank

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With a Service Request (SR) degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, tools, forms, and references.

 $\underline{\text{STANDARD}}$ : So load bank functions/operates as specified in TM 07500C-OI and repairs are documented per TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review Service Request (SR).
- 3. Inventory parts from layette.
- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE).
- 6. Ensure equipment is grounded.
- 7. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 8. Remove faulty part(s).

- 9. Prepare area(s) for new part(s).
- 10. Attach new part(s), making necessary adjustments.
- 11. Test repairs.
- 12. Document repairs.

### PREREQUISITE EVENTS:

| 1142-ADMN-1001 | 1142-ADMN-1002 | 1142-ADMN-1006 |
|----------------|----------------|----------------|
| 1142-ADMN-1008 | 1142-ADMN-1011 | 1142-MANT-1101 |
| 1142-MANT-1108 | 1142-MANT-1109 | 1142-MANT-1142 |
| 1142-MANT-1342 |                |                |

**RELATED EVENTS:** 1142-MANT-1242

#### **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 4. TM 07500C-OI Operation/Maintenance Manual with Repair Parts List for Load Bank, Electrical, 100kW, Model LSH100D42423
- 5. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Shop Equipment, General Purpose, Common No. 24 [C7911] - and/or -

Shop Equipment, General Purpose, Common No. 34 [C7913] - and/or -

General Mechanics Tool Kit (GMTK) [C7915] - and/or -

Shop Equipment, General Purpose, Common No. 30 [C7930]

Multimeter [H7030]

Anti-Static Wrist Strap

Degraded/deadlined load bank

## MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

1142-MANT-2447: Repair a floodlight set

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, tools, forms, and references.

**STANDARD:** So floodlight functions/operates as specified in TM 11120A-OI and repairs are documented per TM 4700-15/1H.

## PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review Service Request (SR).
- 5. Inventory parts from layette.
- 6. Review equipment technical manuals.
- 7. Don Personal Protective Equipment (PPE).
- 8. Ensure equipment is grounded.
- 9. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 10. Remove faulty part(s).
- 11. Prepare area(s) for new part(s).
- 12. Attach new part(s), making necessary adjustments.
- 13. Test repairs.
- 14. Document repairs.

## PREREQUISITE EVENTS:

| 1142-ADMN-1001 | 1142-ADMN-1002 | 1142-ADMN-1006 |
|----------------|----------------|----------------|
| 1142-ADMN-1008 | 1142-ADMN-1011 | 1142-MANT-1101 |
| 1142-MANT-1108 | 1142-MANT-1109 | 1142-MANT-2347 |

**RELATED EVENTS:** 1141-MANT-1247

#### REFERENCES:

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 4. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 5. TM 11120A-OI Operation/Maintenance Manual with Repair Parts List for Floodlight Set (Model MLT5060MIT)
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

```
Personal Protective Equipment (PPE)
```

Shop Equipment, General Purpose, Common No. 24 [C7911] - and/or -

Shop Equipment, General Purpose, Common No. 34 [C7913] - and/or -

General Mechanics Tool Kit (GMTK) [C7915] - and/or -

Shop Equipment, General Purpose, Common No. 30 [C7930]

Multimeter [H7030]

Anti-Static Wrist Strap

Degraded/deadlined floodlight set

## MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI]) Fuel

1142-MANT-2497: Repair an engineer equipment electrical system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, tools, forms, and references.

**STANDARD:** So equipment functions/operates as specified in equipment's technical manual(s) and repairs are documented per TM 4700-15/1H.

## PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review Service Request (SR).
- 5. Inventory parts from layette.
- 6. Review equipment technical manuals.
- 7. Don Personal Protective Equipment (PPE).
- 8. Ensure equipment is grounded.
- 9. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 10. Remove faulty part(s).
- 11. Prepare area(s) for new part(s).
- 12. Test repairs.
- 13. Document repairs.

### PREREQUISITE EVENTS:

| 1142-ADMN-1001 | 1142-ADMN-1002 | 1142-ADMN-1006 |
|----------------|----------------|----------------|
| 1142-ADMN-1008 | 1142-ADMN-1011 | 1142-MANT-1101 |
| 1142-MANT-1108 | 1142-MANT-1109 | 1142-MANT-2397 |

## RELATED EVENTS:

1141-MANT-2402 1142-MANT-2498

## REFERENCES:

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 5. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

## **SUPPORT REQUIREMENTS:**

## **EQUIPMENT:**

Personal Protective Equipment (PPE)

Shop Equipment, General Purpose, Common No. 24 [C7911] - and/or - Shop Equipment, General Purpose, Common No. 34 [C7913] - and/or - General Mechanics Tool Kit (GMTK) [C7915] - and/or - Shop Equipment, General Purpose, Common No. 30 [C7930] Multimeter [H7030] Degraded/deadlined engineer equipment

#### MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

<u>UNITS/PERSONNEL</u>: Operator licensed on equipment with faulty electrical system.

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: The operator will assist by advising on proper lever, valve, switch and/or gauge settings and on the functions of components.

1142-MANT-2498: Repair a general supply equipment electrical system

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**BILLETS:** Engineer Equipment Electrical Systems Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, tools, forms, and references.

<u>STANDARD</u>: So equipment functions/operates as specified in equipment's technical manual(s) and repairs are documented per TM 4700-15/1H.

#### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review Service Request (SR).
- 5. Inventory parts from layette.
- 6. Review equipment technical manuals.
- 7. Don Personal Protective Equipment (PPE).
- 8. Ensure equipment is grounded.
- 9. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 10. Remove faulty part(s).
- 11. Prepare area(s) for new part(s).
- 12. Attach new part(s), making necessary adjustments.
- 13. Test repairs.

## 14. Document repairs.

## PREREQUISITE EVENTS:

| 1142-ADMN-1001 | 1142-ADMN-1002 | 1142-ADMN-1006 |
|----------------|----------------|----------------|
| 1142-ADMN-1008 | 1142-ADMN-1011 | 1142-MANT-1101 |
| 1142-MANT-1108 | 1142-MANT-1109 |                |

**RELATED EVENTS:** 1142-MANT-2497

## REFERENCES:

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 5. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

```
Personal Protective Equipment (PPE)

Shop Equipment, General Purpose, Common No. 24 [C7911] - and/or -
Shop Equipment, General Purpose, Common No. 34 [C7913] - and/or -
General Mechanics Tool Kit (GMTK) [C7915] - and/or -
Shop Equipment, General Purpose, Common No. 30 [C7930]

Multimeter [H7030]

Degraded/deadlined general supply equipment
```

#### MATERIAL:

Repair parts

 ${\hbox{{\sc units/personnel}}}\colon$  Operator licensed on equipment with faulty electrical system.

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: The operator will assist by advising on proper lever, valve, switch and/or gauge settings and on the functions of components.

## ENG & UTIL T&R MANUAL

## CHAPTER 10

## MOS 1161 INDIVIDUAL EVENTS

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## ENG & UTIL T&R MANUAL

#### CHAPTER 10

#### MOS 1161 INDIVIDUAL EVENTS

- 10000. PURPOSE. This chapter details the individual events that pertain to the Refrigeration and Air Conditioning Technician. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful.
- 10001. EVENT CODING. Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX-XXXX. This chapter utilizes the following methodology
- a. Field one. This field represents the community. This chapter contains the following community codes:
  - Code 1161 Description Refrigeration and Air Conditioning Technician
- b. Field two. This field represents the functional/duty area. This chapter contains the following functional/duty areas:
  - Code ADMN Description Administration
    MANT Maintenance
    XENG General Engineering
  - c. Field three.
- (1) The first digit of this field provides the level at which the event is accomplished. The following event levels are used:

| Code | Description |      |        |
|------|-------------|------|--------|
| 1000 | Core        | Skil | ls     |
| 2000 | Core        | Plus | Skills |

- (2) As the Task Analyst/Advocate has deemed appropriate the second digit of this field represents a sub-function to that duty area identified in field two. The following sub-functions are used in this chapter:
  - Code X0XX Description
    X0XX Administrative
    X1XX Miscellaneous maintenance functions
    X2XX Preventive Maintenance Checks and Services
    X3XX Diagnosing equipment malfunctions
    X4XX Repairing equipment
    X5XX Planning
    X6XX Equipment set up

- X7XX Equipment operation
- X9XX Civilian (tradesman/COTS type) duties based on operational/ humanitarian/disaster relief requirements.
- (3) The last two digits of this field are used to identify and categorize like events or equipment across all MOSs of the 1100 OccFld (see Chapters 7 through 12), or are just numerical sequencing of events. Following are **some** examples of the categories used:

# <u>Code</u> <u>Description</u>

- X002 Core and Core Plus Skills related to controlling hazardous energy. See: 1120-ADMN-2002, 1141-ADMN-1002, 1142-ADMN-1002, 1161-ADMN-1002, 1169-ADMN-2002 and 1171-ADMN-1002.
- X012 Core and Core Plus Skills related to NAVMC 10772 initiation, validation and submission. See: 1120-ADMN-2012, 1141-ADMN-1012, 1142-ADMN-1012, 1161-ADMN-1012, 1169-ADMN-2012 and 1171-ADMN-1012.
- 2023 Core Plus advanced level MOS training program functions. See: 1120-ADMN-2023, 1141-ADMN-2023, 1142-ADMN-2023, 1161-ADMN-2023, 1169-ADMN-2023 and 1171-ADMN-2023.
- 206X Core Plus advanced level supply support functions. See: 1120-ADMN-2061, 1120-ADMN-2062, 1120-ADMN-2063, 1120-ADMN-2064, 1120-ADMN-2065, 1141-ADMN-2061, 1141-ADMN-2062, 1142-ADMN-2061, 1142-ADMN-2062, 1161-ADMN-2061, 1161-ADMN-2062, 1169-ADMN-2063, 1169-ADMN-2064, 1169-ADMN-2065, 1171-ADMN-2061 and 1171-ADMN-2062.
- XX18 Core and Core Plus Skills related to maintaining and operating the Integrated Tent, ECU and Generator (ITEG). See: 1141-XENG-1618, 1141-MANT-2218, 1141-XENG-2718, 1142-MANT-2318, 1161-MANT-1318 and 1161-MANT-2618.

  NOTE: There are three MOSs involved with this equipment.

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|                 | Certification                                       |       |
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|                 | Operate a bar gauge manifold                        | 10-18 |
|                 | Operate a vacuum pump                               | 10-19 |
| 1161-MANT-1104  | Recover refrigerant                                 | 10-20 |
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| 1161-MANT-1106  | Braze tubing                                        | 10-22 |
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| 1161-MANT-1108  | Repair a wire connection on equipment               | 10-24 |
|                 | Solder an electrical connection                     | 10-25 |
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|                 | Perform scheduled PMCS on an ITEG ECU               | 10-28 |
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|                 | Repair a refrigeration system mechanical system     | 10-36 |
|                 | Repair an ECU electrical system                     | 10-38 |
|                 | Repair a refrigeration system electrical system     | 10-39 |
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|                 | Apply environmental regulations                     | 10-50 |
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|                 | Maintain equipment repair parts bins                | 10-54 |
|                 | Monitor maintenance management reports              | 10-55 |
|                 | Monitor maintenance related programs                | 10-56 |
|                 | Inspect maintenance actions (quality control)       | 10-57 |
|                 | Comply with a Modification Instruction (MI)         | 10-58 |
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|                 | equipment support plan                              |       |
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|                 | structure                                           |       |
|                 | Set up an ITEG                                      | 10-61 |
| 1161-XENG-2641  | Direct environmental control equipment set          | 10-63 |
|                 | up/installation                                     |       |
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|                 | Monitor field refrigeration/environmental control   | 10-65 |

|                | equipment operation                                   |       |
|----------------|-------------------------------------------------------|-------|
| 1161-XENG-2974 | Inspect interior HVAC system of a permanent structure | 10-66 |
| 1161-XENG-2978 | Install commercial HVAC system                        | 10-68 |

#### 10003. 1000-LEVEL EVENTS

1161-ADMN-1001: Conduct an Operational Risk Assessment (ORA)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With a task/mission, a Risk Management Worksheet, and references.

**STANDARD:** So task/mission effectiveness is increased while loss of personnel and materiel is minimized through the use of risk management controls.

### PERFORMANCE STEPS:

- 1. Identify task/mission requirements.
- 2. Review references.
- 3. Identify hazards, recording them on Risk Management Worksheet.
- 4. Assess severity and probability of hazards to determine risk levels.
- 5. Develop risk control measures.
- 6. Make risk decisions and/or forward Risk Management Worksheet to supervisor for decision/approval.
- 7. Implement controls.

## RELATED EVENTS:

1141-ADMN-1001 1142-ADMN-1001 1171-ADMN-1001

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO 3500.27\_ Operational Risk Management (ORM)

## SUPPORT REQUIREMENTS:

MATERIAL: Risk Management Worksheet.

1161-ADMN-1002: Control (Lockout/Tagout) hazardous energy

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**BILLETS:** Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

NAVMC 3500.12B 22 Jan 2014

**CONDITION:** With equipment, equipment manuals, Lockout/Tagout devices, forms, and references.

**STANDARD:** So equipment is locked out or tagged out to protect against accidental or inadvertent start-up, or operation that may cause injury to personnel performing maintenance, service, repair, or modification to the equipment.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Locate all energy isolating devices and hazardous energy sources (NOTE: there may be more than one).
- 3. Obtain required number of Lockout/Tagout devices from program coordinator.
- 4. Notify all effected personnel and supervisors.
- 5. Don Personal Protective Equipment (PPE).
- 6. Shut down equipment/turn off circuit.
- 7. Dissipate or restrain any stored energy.
- 8. Apply Lockout/Tagout devices.
- 9. Verify energy is isolated/dissipated (test circuit).
- 10. Effect required service, maintenance, repairs or modifications to equipment/circuit.
- 11. Remove Lockout/Tagout devices.
- 12. Restore equipment/circuit to normal operation.
- 13. Return Lockout/Tagout devices to program coordinator.

PREREQUISITE EVENTS: 1161-ADMN-1001

#### RELATED EVENTS:

1141-ADMN-1002 1142-ADMN-1002 1171-ADMN-1002

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. NAVMC DIR 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Program Manual
- 3. UNIT SOP Unit's Standing Operating Procedures

#### SUPPORT REQUIREMENTS:

**EQUIPMENT:** Personal Protective Equipment (PPE)

## MATERIAL:

Lockout/Tagout devices

NAVMC 11403 (Lockout/Tagout Checklist)

UNITS/PERSONNEL: Lockout/Tagout Program Coordinator

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: NAVMC Dir 5100.8, Chapter 12, provides detailed information for this event.

1161-ADMN-1003: Recover an electric shock victim

NAVMC 3500.12B 22 Jan 2014

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a situation and without references.

STANDARD: So danger to personnel is eliminated and victim is cared for.

#### PERFORMANCE STEPS:

- 1. Evaluate situation.
- 2. Send for help.
- 3. Provide for personal protection.
- 4. Isolate victim from electrical source.
- 5. Evaluate victim.
- 6. Start artificial resuscitation (if necessary).
- 7. Remain with victim until medical help arrives.
- 8. Report incident.

#### RELATED EVENTS:

1120-ADMN-2003 1141-ADMN-1003 1142-ADMN-1003 1169-ADMN-2003 1171-ADMN-1003

### REFERENCES:

- 1. MCRP 3-02G First Aid
- 2. MCRP 3-17.7K Theater of Operations Electrical Systems
- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 4. TM 2000-15/4 Power System Reference Manual
- 5. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

## SUPPORT REQUIREMENTS:

## MATERIAL:

Ropes

Brooms, mops or tree branches

1161-ADMN-1004: Respond to a hazardous materials spill

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a situation and without references.

STANDARD: So the spill is contained, reported, and cleaned up.

## PERFORMANCE STEPS:

- 1. Evacuate immediate area (if necessary).
- 2. Provide for personal protection.
- 3. Contain spill.
- 4. Report spill.
- 5. Remove uncontaminated material.
- 6. Dispose of hazardous material.

### RELATED EVENTS:

1120-ADMN-2004 1141-ADMN-1004 1142-ADMN-1004 1169-ADMN-2004 1171-ADMN-1004

## REFERENCES:

- 1. INSTALLATION SOP Installation's Standing Operating Procedures
- 2. MCO 4450.12\_ Storage and Handling of Hazardous Materials
- 3. MCO P5090.2\_ Environmental Compliance and Protection Manual
- 4. MCRP 4-11B Environmental Considerations

## SUPPORT REQUIREMENTS:

MATERIAL: Spill containment kit

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: MCO 4450.12A, Chapter 7 and MCRP 4-11B, Appendix J, Tab A provide detailed information for this event.

1161-ADMN-1005: Administer first aid for chemical ingestion/contact

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a situation and Material Safety Data Sheets (MSDS).

STANDARD: So effect of the chemical is mitigated and victim is cared for per the MSDS and MCRP 3-02G.

#### PERFORMANCE STEPS:

- 1. Protect yourself and other personnel.
- 2. Send for help.
- 3. Review Material Safety Data Sheet (MSDS).
- 4. Provide for personal protection (if required).
- 5. Give first aid.
- 6. Remain with victim until medical help arrives.
- 7. Report incident.

RELATED EVENTS:

1120-ADMN-2005 1141-ADMN-1005 1142-ADMN-1005

1169-ADMN-2005 1171-ADMN-1005

## REFERENCES:

1. MCRP 3-02G First Aid

## SUPPORT REQUIREMENTS:

MATERIAL: Material Safety Data Sheet (MSDS) file

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: MCRP 3-02G, Chapter 7 provides detailed information for this event.

1161-ADMN-1006: Obtain equipment publications

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With a tasking, equipment, and references.

**STANDARD:** So appropriate publication(s) are used with corresponding equipment.

## PERFORMANCE STEPS:

- 1. Determine/record equipment National Stock Number (NSN).
- 2. Determine/record equipment Model Number.
- 3. Determine/record equipment Identification Number.
- 4. Ascertain section's authorized echelon of maintenance.
- 5. Identify publications that are published/available for equipment.
- 6. Check required publications out of section's Publication Library.

## RELATED EVENTS:

1141-ADMN-1006 1142-ADMN-1006 1171-ADMN-1006

### **REFERENCES:**

- 1. MCO P4790.2\_ MIMMS Field Procedures Manual
- 2. MCO P5215.17\_ The Marine Corps Technical Publications System
- 3. SL-1-2/SL-1-3 Index of Publications Stocked by the USMC
- 4. UNIT SOP Unit's Standing Operating Procedures

## SUPPORT REQUIREMENTS:

 $\underline{\text{OTHER SUPPORT REQUIREMENTS}}$ : Internet access, with a CAC card, may be required to complete this event at some units.

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Additional information to assist or increase personal knowledge for this event is contained in MCI 0416B - The Marine Corps Publications and Directives System.

1161-ADMN-1007: Conduct an SL-3 Components List/Basic Issue Items (BII)
inventory

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment and references.

 $\underline{\text{STANDARD}}$ : So accountability of all components is validated per the SL-3/BII list and TM 4700-15/1H.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Obtain Components List (SL-3 or TM listing Basic Issue Items [BII]) for item.
- 3. Identify each component using the SL-3/BII.
- 4. Identify missing components.
- 5. Identify unserviceable components.
- 6. Document inventory results.
- 7. Report any inventory discrepancies and unserviceable components.

**PREREQUISITE EVENTS:** 1161-ADMN-1006

## RELATED EVENTS:

1141-ADMN-1007 1142-ADMN-1007 1171-ADMN-1007

## **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO P4400.150\_ Consumer Level Supply Policy Manual
- SI 10510-OR/1 Tool Warranty/Replacement Instructions for Using the USMC ServMart
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. UNIT SOP Unit's Standing Operating Procedures

### SUPPORT REQUIREMENTS:

MATERIAL: SL-3/BII inventory sheets

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: TM 4700-15/1H, Chapter 2, Section 6 provides detailed information for this event.

1161-ADMN-1008: Conduct an LTI

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: LTI is Limited Technical Inspection.

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment requiring inspection and the equipment's records, forms, tools, and references.

**STANDARD:** So equipment is inspected for serviceability and discrepancies are identified.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Lockout/Tagout equipment (if required).
- 3. Provide for personal protection (if required).
- 4. Identify components.
- 5. Verify component function/serviceability.
- 6. Verify authorized modifications.
- 7. Record discrepancies (if any).
- 8. Attach NAVMC 1018 to equipment (if required).
- 9. Complete NAVMC 10560.

## PREREQUISITE EVENTS:

1161-ADMN-1002 1161-ADMN-1006 1161-ADMN-1007

## RELATED EVENTS:

1141-ADMN-1008 1142-ADMN-1008 1171-ADMN-1008

## REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCO P4790.2\_ MIMMS Field Procedures Manual
- 3. MCRP 4-11.4A Recovery and Battle Damage Assessment and Repair
- 4. TM 4700-15/1 Ground Equipment Record Procedures
- 5. UNIT SOP Unit's Standing Operating Procedures

#### SUPPORT REQUIREMENTS:

**EQUIPMENT:** Personal Protective Equipment (PPE).

### MATERIAL:

NAVMC 1018 (Inspection/Repair Tag)

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection of Engineer Equipment [LTI])

## MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: TM 4700-15/1H, Chapter 2, Section 9 provides

information for completing the NAVMC 1018 and TM 4700-15/1H, Chapter 2, Section 22 provides information for completing the NAVMC 10560.

1161-ADMN-1009: Document equipment operation history

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, equipment's records, forms, and references.

**STANDARD:** So hours/days of operation for the equipment are indicated and preventive maintenance intervals can be scheduled/rescheduled.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Validate equipment descriptive data on NAVMC 696D.
- 3. Ensure equipment descriptive data on NAVMC 10524 is correct.
- 4. Record hours/days equipment was operated (on NAVMC 10524 and in GCSS-MC).

### RELATED EVENTS:

1141-ADMN-1009 1142-ADMN-1009 1171-ADMN-1009

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. MCO P4790.2\_ MIMMS Field Procedures Manual
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures

## **SUPPORT REQUIREMENTS:**

## MATERIAL:

NAVMC 696D (Motor Vehicle and Engineer Equipment Record Folder)
NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: TM 4700-15/1H, Chapter 2, Section 14 provides information for completing the NAVMC 696D and TM 4700-15/1H, Chapter 2, Section 21 provides information for completing the NAVMC 10524.

1161-ADMN-1010: Requisition repair parts

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With access to GCSS-MC and/or forms, a list of required parts/components, required unit unique data, equipment technical manuals, and references.

STANDARD: So valid requisitions are created.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review equipment technical manuals and/or stock lists.
- 3. Retrieve and review assigned GCSS-MC Service Request (SR) task, validating equipment identification data.
- 4. Debrief GCSS-MC SR task by entering repair part(s)/component(s) requirement information.
- 5. Change GCSS-MC SR status to "waiting approval."
- 6. Follow up/reconcile requisition (as needed/required).

**PREREQUISITE EVENTS:** 1161-ADMN-1006

#### RELATED EVENTS:

1141-ADMN-1010 1142-ADMN-1010 1161-ADMN-1011 1171-ADMN-1010

### REFERENCES:

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. MCO P4790.2\_ MIMMS Field Procedures Manual
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. UNIT SOP Unit's Standing Operating Procedures

## SUPPORT REQUIREMENTS:

OTHER SUPPORT REQUIREMENTS: Internet access, with a CAC card, may be required in order to complete this event.

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: TM 4700-15/1H, Chapter 2, Section 3 provides information that will assist in entering repair part/component requirements into GCSS-MC.

1161-ADMN-1011: Document equipment service/repair history

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With access to GCSS-MC and/or forms and references.

STANDARD: So service/repair actions for equipment are debriefed.

## PERFORMANCE STEPS:

- 1. Review references.
- 2. Retrieve and review assigned GCSS-MC Service Request (SR).
- 3. Debrief GCSS-MC SR task by updating information with service/repair actions taken.
- 4. Change GCSS-MC SR status to "waiting approval."

#### **RELATED EVENTS:**

| 1141-ADMN-1011 | 1142-ADMN-1011 | 1161-ADMN-1006 |
|----------------|----------------|----------------|
| 1161-ADMN-1008 | 1161-ADMN-1009 | 1161-ADMN-1010 |
| 1171-ADMN-1011 |                |                |

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures

#### SUPPORT REQUIREMENTS:

OTHER SUPPORT REQUIREMENTS: Internet access, with a CAC card, may be required in order to complete this event.

**1161-ADMN-1012:** Initiate a NAVMC 10772

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

<u>DESCRIPTION</u>: NAVMC 10772 is Recommended Change to Technical Publications/Logistics-Maintenance Data Coding.

**BILLETS:** Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With an identified error/deficiency to a technical publication and references.

STANDARD: So corrections/improvements to the publication will be affected per  $\overline{\text{TM }4700-15/1\text{H}}$  and MCO P5215.17C.

### PERFORMANCE STEPS:

- 1. Review references.
- Determine if error/deficiency requires use of Part I or Part II of NAVMC 10772.
- 3. Fill in all required blocks of NAVMC 10772.
- 4. Forward completed NAVMC 10772.

PREREQUISITE EVENTS: 1161-ADMN-1006

RELATED EVENTS:

1141-ADMN-1012 1142-ADMN-1012 1171-ADMN-1012

#### REFERENCES:

1. Appropriate Technical Manuals

- 2. MCO P5215.17\_ The Marine Corps Technical Publications System
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures
- 4. UNIT SOP Unit's Standing Operating Procedures

#### SUPPORT REQUIREMENTS:

MATERIAL: NAVMC 10772 (Recommended Change to Technical Publications/Logistics-Maintenance Data Coding)

OTHER SUPPORT REQUIREMENTS: Internet access, with a CAC card, may be required in order to complete this event per Unit's SOP. The website: https://portal.logcom.usmc.mil/sites/pubs/Site%20Pages/NAVMC10772RFC.aspx.

## MISCELLANEOUS:

**ADMINISTRATIVE INSTRUCTIONS:** TM 4700-15/1H, Chapter 2, Section 23 provides detailed information for this event.

1161-ADMN-1017: Maintain EPA Section 608 Type I Technician Certification

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: EPA is the Environmental Protection Agency.

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With the aid of instruction and references.

**STANDARD:** To guarantee compliance with Clean Air Act requirements for technician certification.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Pass Environmental Protection Agency (EPA) Section 608 Core examination.
- 3. Pass EPA Section 608 Type I examination.
- 4. Obtain documentation of certification.
- 5. Monitor changes to Section 608 of the Clean Air Act (CAA).
- 6. Comply with EPA Section 608 Type I Technician requirements.

**RELATED EVENTS:** 1161-ADMN-1018

- 1. Appropriate Technical Manuals
- 2. 40 CFR 82 Chapter 40, Code of Federal Regulations, Part Number 82 (Protection of Stratospheric Ozone)
- 3. 42 USC 85 VI 7671 Title 42, United States Code, Chapter 85, Subchapter VI, Section 7671 (Ozone Protection)
- 4. MCO 5090.1 Chlorofluorocarbons (CFC's) and Halons
- 5. PL 101-549 Public Law No: 101-549 Clean Air Act Amendments of 1990

## MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Graduates of the Basic Refrigeration and Air Conditioning Technician Course (CID: M0311D2) have Environmental Protection Agency (EPA) Section 608 Type I certification. EPA Section 608 Type I certification allows the technician to work on "small appliances." Certification is obtained from an authorized EPA test proctoring activity. Current information on Section 608 of the Clean Air Act (CAA) can be found at www.epa.gov/ozone/title6/608.

SPECIAL PERSONNEL CERTS: EPA Section 608 Type I Technician Certificate.

1161-ADMN-1018: Maintain EPA Section 608 Type II Technician Certification

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** EPA is the Environmental Protection Agency.

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of instruction and references.

**STANDARD:** To guarantee compliance with Clean Air Act requirements for technician certification.

## PERFORMANCE STEPS:

- 1. Review references.
- 2. Pass Environmental Protection Agency (EPA) Section 608 Core examination.
- 3. Pass EPA Section 608 Type II examination.
- 4. Obtain documentation of certification.
- 5. Monitor changes to Section 608 of the Clean Air Act (CAA).
- 6. Comply with EPA Section 608 Type II Technician requirements.

**PREREQUISITE EVENTS:** 1161-ADMN-1017

- 1. Appropriate Technical Manuals
- 2. 40 CFR 82 Chapter 40, Code of Federal Regulations, Part Number 82 (Protection of Stratospheric Ozone)
- 3. 42 USC 85 VI 7671 Title 42, United States Code, Chapter 85, Subchapter VI, Section 7671 (Ozone Protection)

- 4. MCO 5090.1 Chlorofluorocarbons (CFC's) and Halons
- 5. PL 101-549 Public Law No: 101-549 Clean Air Act Amendments of 1990

## MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Graduates of the Basic Refrigeration and Air Conditioning Technician Course (CID: M0311D2) have Environmental Protection Agency (EPA) Section 608 Type II certification. EPA Section 608 Type II certification allows the technician to work on high pressure and very high pressure refrigerant systems (most Marine Corps equipment). Certification is obtained from an authorized EPA test proctoring activity. Current information on Section 608 of the Clean Air Act (CAA) can be found at www.epa.gov/ozone/title6/608.

SPECIAL PERSONNEL CERTS: EPA Section 608 Type II Technician Certificate.

1161-MANT-1101: Operate a multimeter

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment having an electrical circuit(s).

STANDARD: So electrical outputs of the circuit are measured.

## PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Determine correct setting (AC, DC, resistance or current).
- 3. Test circuit (voltage, resistance, current).
- 4. Record measurements/readings.
- 5. Analyze measurements/readings.

## PREREQUISITE EVENTS:

1161-ADMN-1001 1161-ADMN-1002 1161-ADMN-1006

## RELATED EVENTS:

1141-MANT-1101 1142-MANT-1101 1171-MANT-2101

- 1. Appropriate Technical Manuals
- 2. IM 8024B Manufacturer's Instruction Manual for Fluke Model 8024B Digital Multimeter
- 3. MRAC Modern Refrigeration & Air Conditioning Text Book
- 4. SL-3-11502A Components List for Cooling and Refrigeration Expeditionary Kit (CREK)
- 5. TC 9-60 Communications-Electronics Fundamentals, Basic Principles of Alternating Current and Direct Current
- 6. TC 9-62 Communications-Electronics Fundamentals, Solid State Devices and

Solid State Power Supplies and Amplifiers
7. TM 2000-15/4 Power System Reference Manual

## SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Multimeter [H7030]

Anti-Static Wrist Strap (if required) Equipment with an electrical circuit

1161-MANT-1102: Operate a bar gauge manifold

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, tools, material, and references.

STANDARD: So refrigerant system pressures are observed and measured.

### PERFORMANCE STEPS:

- 1. Identify FROST BITE HAZARD(S).
- 2. Review references.
- 3. Perform before operation checks on bar gauge manifold.
- 4. Don Personal Protective Equipment (PPE).
- 5. Attach charging line (hoses) to refrigeration/air conditioning equipment.
- 6. Purge charging line.
- 7. Check for leaks.
- 8. Observe readings.
- 9. Analyze readings.
- 10. Equalize system pressure on bar gauge manifold.
- 11. Disconnect charging line from refrigeration/air conditioning equipment.

## PREREQUISITE EVENTS:

1161-ADMN-1006 1161-ADMN-1017 1161-ADMN-1018

## RELATED EVENTS:

1161-MANT-1103 1161-MANT-1104 1161-MANT-1106

1161-MANT-1107

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MRAC Modern Refrigeration & Air Conditioning Text Book
- 3. TM 11502A-OI User's Manual for Cooling and Refrigeration Expeditionary Kit (CREK)

## SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)
Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]
Refrigeration/Air conditioning equipment to be serviced/repaired

MATERIAL: Refrigerant (if needed)

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Must have EPA certification for refrigerant system being worked on.

1161-MANT-1103: Operate a vacuum pump

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment, tools, an electrical power source, and references.

**STANDARD:** So moisture and non-condensables are removed and integrity of refrigerant tubing (leaks) is determined.

## PERFORMANCE STEPS:

- Identify FROST BITE HAZARD(S).
- 2. Review references.
- 3. Perform before operation checks on vacuum pump.
- 4. Don Personal Protective Equipment (PPE).
- 5. Connect vacuum pump to refrigerant system tubing via bar gauge manifold.
- 6. Turn on pump.
- 7. Check for suction.
- 8. Monitor bar gauge manifold until vacuum is established.
- 9. Turn off pump.
- 10. Verify refrigerant tubing is not leaking.
- 11. Perform after operation checks on vacuum pump.

## PREREQUISITE EVENTS:

1161-ADMN-1006 1161-ADMN-1017 1161-ADMN-1018 1161-MANT-1102

### RELATED EVENTS:

1161-MANT-1104 1161-MANT-1106 1161-MANT-1107

- 1. Appropriate Technical Manuals
- 2. MRAC Modern Refrigeration & Air Conditioning Text Book
- 3. TM 11502A-OI User's Manual for Cooling and Refrigeration Expeditionary Kit (CREK)

## SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)
Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]
Equipment with refrigerant tubing

OTHER SUPPORT REQUIREMENTS: Electrical power source

#### **MISCELLANEOUS:**

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Must have EPA certification for refrigerant system being worked on.

1161-MANT-1104: Recover refrigerant

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment, tools, an electrical power source, and references.

STANDARD: So refrigerant is recovered with "de minimis" atmospheric impact.

#### PERFORMANCE STEPS:

- 1. Identify FROST BITE HAZARD(S).
- 2. Review references.
- 3. Don Personal Protective Equipment (PPE).
- 4. Attach hoses to equipment being serviced.
- 5. Perform before operation checks.
- 6. Check for leaks.
- 7. Turn on compressor.
- 8. Recover refrigerant.
- 9. Perform during operation checks.
- 10. Turn off compressor.

#### PREREQUISITE EVENTS:

1161-ADMN-1006 1161-ADMN-1017 1161-ADMN-1018

## RELATED EVENTS:

1161-MANT-1102 1161-MANT-1103 1161-MANT-1107

- 1. Appropriate Technical Manuals
- 2. MRAC Modern Refrigeration & Air Conditioning Text Book
- 3. SL-3-11502A Components List for Cooling and Refrigeration Expeditionary Kit (CREK)
- 4. TM 11502A-OI User's Manual for Cooling and Refrigeration Expeditionary Kit

(CREK)

## SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]
Refrigeration or air conditioning equipment being serviced

MATERIAL: Refrigerant

OTHER SUPPORT REQUIREMENTS: Electrical power source

## **MISCELLANEOUS:**

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Must have EPA certification for refrigerant system being worked on.

1161-MANT-1105: Flare tubing

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment, tools, material, and references.

STANDARD: So connection(s) will not leak when under designated pressure.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Size tubing.
- 3. Prepare tubing and fitting (clean).
- 4. Create flare.
- 5. Make connection.
- 6. Test connection for leaks.

## RELATED EVENTS:

1161-MANT-1106 1161-MANT-1109

#### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MRAC Modern Refrigeration & Air Conditioning Text Book
- 3. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 4. TM 11502A-OI User's Manual for Cooling and Refrigeration Expeditionary Kit (CREK)

## SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Cooling and Refrigeration Expeditionary Kit (CREK) [B0061] Equipment with faulty tubing

#### MATERIAL:

Air Conditioner/Refrigeration (ACR) copper tubing Fittings

1161-MANT-1106: Braze tubing

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, tools, material, and references.

STANDARD: Per TB SIG 222 to obtain leak proof connection(s).

## PERFORMANCE STEPS:

- Identify FIRE HAZARD(S).
- 2. Identify VAPOR HAZARD(S).
- 3. Review references.
- 4. Size tubing.
- 5. Prepare tubing and fittings (sand and flux).
- 6. Don Personal Protective Equipment (PPE).
- 7. Heat connection(s).
- 8. Apply solder/braze connection(s).
- 9. Clean connection(s).
- 10. Test connection(s) for leaks.

## RELATED EVENTS:

1161-MANT-1105 1161-MANT-1109

## **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MRAC Modern Refrigeration & Air Conditioning Text Book
- 3. TB SIG 222 Solder and Soldering
- 4. TM 11502A-OI User's Manual for Cooling and Refrigeration Expeditionary Kit (CREK)

## SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]
Equipment with faulty tubing

### MATERIAL:

Air Conditioner/Refrigeration (ACR) copper tubing Fittings

Flux (if required) Solder Emery cloth

OTHER SUPPORT REQUIREMENTS: Ventilation is required if this event is performed indoors.

1161-MANT-1107: Charge a system with refrigerant

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, tools, material, and references.

<u>STANDARD</u>: So refrigerant system operating pressures are obtained per the equipment's technical manuals.

#### PERFORMANCE STEPS:

- Identify FROST BITE HAZARD(S).
- 2. Review references to determine normal operating pressures.
- 3. Don Personal Protective Equipment (PPE).
- 4. Connect bar gauge manifold to refrigerant system.
- 5. Evacuate system (if required).
- 6. Ensure vacuum is maintained (if needed).
- 7. Introduce refrigerant.
- 8. Monitor bar gauge manifold until operating pressure is reached.
- 9. Test refrigerant system.

## PREREQUISITE EVENTS:

1161-ADMN-1001 1161-ADMN-1006 1161-ADMN-1017 1161-ADMN-1018 1161-MANT-1102

## RELATED EVENTS:

1161-MANT-1103 1161-MANT-1104

## **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MRAC Modern Refrigeration & Air Conditioning Text Book
- 3. TM 11502A-OI User's Manual for Cooling and Refrigeration Expeditionary Kit (CREK)

## SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)
Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]
Refrigeration or air conditioning equipment being serviced

MATERIAL: Refrigerant

OTHER SUPPORT REQUIREMENTS: Electrical power source

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Must have EPA certification for refrigerant system being worked on.

1161-MANT-1108: Repair a wire connection on equipment

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, tools, material, and references.

**STANDARD:** So electrical continuity is established with tensile strength required by technical manuals related to the application.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review references.
- 3. Determine type of splice/connection required.
- 4. Don Personal Protective Equipment (PPE).
- Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 6. Strip wire(s).
- 7. Clean component(s) and wire(s).
- 8. Construct the splice/connection.
- 9. Test splice/connection.
- 10. Insulate bare wires.

## PREREQUISITE EVENTS:

1161-ADMN-1002 1161-ADMN-1006 1161-MANT-1101

## RELATED EVENTS:

1142-MANT-1108 1161-MANT-1109

#### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. TC 9-60 Communications-Electronics Fundamentals, Basic Principles of Alternating Current and Direct Current
- 3.  $TM 10209-10/1_Use$  and Care of Hand Tools and Measuring Tools
- 4. TM 2000-15/4 Power System Reference Manual

## SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)
Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]
Equipment with faulty wire connection(s)

## MATERIAL:

Wire

Connector(s) (if required)
Electrical tape

1161-MANT-1109: Solder an electrical connection

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, tools, material, and references.

**STANDARD:** So electrical continuity is established with tensile strength required by TB SIG 222 and technical manuals related to the application.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify VAPOR HAZARD(S).
- 3. Review references.
- 4. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 5. Clean component(s) and wire(s).
- 6. Don Personal Protective Equipment (PPE).
- 7. Position component(s) and wire(s).
- 8. Apply flux (if needed).
- 9. Heat connection.
- 10. Apply solder.
- 11. Allow connection to cool.
- 12. Test connection.
- 13. Insulate bare wires.

## PREREQUISITE EVENTS:

1161-ADMN-1001 1161-ADMN-1002 1161-ADMN-1006 1161-MANT-1101

#### RELATED EVENTS:

1142-MANT-1109 1161-MANT-1108

- 1. Appropriate Technical Manuals
- 2. TB SIG 222 Solder and Soldering
- 3. TC 9-60 Communications-Electronics Fundamentals, Basic Principles of Alternating Current and Direct Current
- 4. TC 9-62 Communications-Electronics Fundamentals, Solid State Devices and

- Solid State Power Supplies and Amplifiers
- 5. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 6. TM 2000-15/4 Power System Reference Manual

## SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]
Soldering Iron
Equipment with faulty wire connection(s)

### MATERIAL:

Wire

Connector(s) (if required)
Flux (if needed)
Solder
Electrical tape

OTHER SUPPORT REQUIREMENTS: Ventilation is required if this event is performed indoors.

1161-MANT-1211: Perform scheduled PMCS on an ECU

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

#### **DESCRIPTION:**

PMCS is Preventive Maintenance Checks and Services. ECU is Environmental Control Unit.

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment, electrical power source, tools, parts for scheduled services, forms, and references.

<u>STANDARD</u>: So equipment is checked and serviced per equipment technical manuals and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

#### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FROST BITE HAZARD(S).
- 3. Review equipment technical manual.
- 4. Review Service Request (SR).
- 5. Don Personal Protective Equipment (PPE).
- 6. Ensure equipment is grounded.
- 7. Contain (Lockout/Tagout) hazardous energy.
- 8. Inspect equipment.
- 9. Service equipment.

10. Document maintenance performed and deficiencies/discrepancies noted.

## PREREQUISITE EVENTS:

1161-ADMN-1001 1161-ADMN-1002 1161-ADMN-1006

1161-ADMN-1011

#### RELATED EVENTS:

1161-ADMN-1007 1161-ADMN-1008

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. DP 10230 Disposal Plan for the Military Standard Environmental Control Equipment
- 3. DP 4120 Disposal Plan for the 400Hz Environmental Control Units/Vertical Skids
- 4. FP 11079A/11079B Fielding Plan for the Environmental Control Unit (ECU) TAMCN B0010 (10 Ton)
- 5. FP 11080A Fielding Plan for the Environmental Control Unit (ECU) TAMCN B0003 (1.5 Ton)
- 6. FP 11082A Fielding Plan for the Environmental Control Unit (ECU) TAMCN B0014 (3 Ton)
- 7. FP 11084A Fielding Plan for the Environmental Control Unit (ECU) TAMCN B0008 (5 Ton)
- 8. FP 11453A Fielding Plan for the Environmental Control Unit (ECU) TAMCN B0074 (.75 Ton)
- 9. MI 11082A-OI Installation Instructions for Installing Wye-Duct Adaptor on the AN/TPS-63B (A1300) When Using 3 Ton Environmental Control Unit (B0014)
- 10. SI 4120-OI/3B Warranty Procedures for the Family of Marine Corps Environmental Control Units
- 11. SL-3-4120 Components List for Family of Environmental Control Units
- 12. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 13. TM 11079A/11079B-OI Operator and Field Maintenance Manual Including Repair Parts and Special Tools List (RPSTL) for Environmental Control Unit, 10 Ton, 120,000 BTU (120K ECU)
- 14. TM 11080A/11080B-OI Operation and Unit Maintenance Instructions with Illustrated Parts Breakdown for Environmental Control Unit, 1.5-Ton, 18,000 BTU
- 15. TM 11082A/11082B-OI Operator and Field Maintenance Manual Including Repair Parts and Special Tools List (RPSTL) for Environmental Control Unit, 3 Ton, 36,000 BTU/hr (36K ECU)
- 16. TM 11084A/11084B-OI Operator and Field Maintenance Manual Including Repair Parts and Special Tools List (RPSTL) for Environmental Control Unit, 5-Ton, 60,000 BTU/hr (60K ECU)
- 17. TM 11453A/11453B-OI Operation and Unit Maintenance Instructions with Illustrated Parts Breakdown for Environmental Control Unit, .75-Ton, 9,000 BTU/hr (9K ECU)
- 18. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)
Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]

Environmental Control Unit (ECU)

#### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])
Parts for scheduled services

OTHER SUPPORT REQUIREMENTS: Electrical power source may be required.

#### **MISCELLANEOUS:**

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Must have EPA Section 608 Type II Technician Certificate.

1161-MANT-1218: Perform scheduled PMCS on an ITEG ECU

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

### **DESCRIPTION:**

PMCS is Preventive Maintenance Checks and Services.

ITEG is Integrated Trailer/ECU/Generator.

ECU is Environmental Control Unit.

BILLETS: Refrigeration and Air Conditioning Technician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, personnel, material, and references.

**STANDARD:** So equipment is checked and serviced per TM 11490A-OR and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

## PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- Identify FROST BITE HAZARD(S).
- 3. Review equipment technical manuals.
- 4. Review Service Request (SR).
- 5. Don Personal Protective Equipment (PPE).
- 6. Ensure equipment is grounded.
- 7. Contain (Lockout/Tagout) hazardous energy.
- 8. Inspect equipment.
- 9. Service equipment.
- 10. Document maintenance performed and deficiencies/discrepancies noted.

### PREREQUISITE EVENTS:

1161-ADMN-1001 1161-ADMN-1002 1161-ADMN-1006

1161-ADMN-1011

## RELATED EVENTS:

1161-ADMN-1007 1161-ADMN-1008

#### **REFERENCES:**

- FP 11490A Fielding Plan for Integrated Trailer Environmental Control Unit & Generator (ITEG)
- 2. SI 11490A-OI Warranty Procedures for the Integrated Trailer-ECU-Generator
- 3. SL-3-11490A Components List for Integrated Trailer, Environmental Control Unit, Generator (ITEG)
- 4. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 5. TM 11490A-OR Operation Manual with Repair Parts List, Integrated Trailer-ECU-Generator (ITEG)
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]
Integrated Trailer, Environmental Control Unit, Generator (ITEG) [B0018]

### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])
Parts for scheduled services
Fuel

#### **MISCELLANEOUS:**

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Assistance from an Electrician (MOS 1141) is required for PMCS on the generator portion of the ITEG.

1161-MANT-1235: Perform scheduled PMCS on an FRS

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

## **DESCRIPTION:**

PMCS is Preventive Maintenance Checks and Services. FRS is Field Refrigeration System (either Small or Large).

BILLETS: Refrigeration and Air Conditioning Technician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment, a 120/208VAC 60Hz 3-Phase electrical power source, tools, parts for scheduled services, forms, and references.

<u>STANDARD</u>: So equipment is checked and serviced per equipment technical manuals and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

## PERFORMANCE STEPS:

1. Identify ELECTROCUTION HAZARD(S).

- 2. Identify FROST BITE HAZARD(S).
- 3. Review equipment technical manuals.
- 4. Review Service Request (SR).
- 5. Don Personal Protective Equipment (PPE).
- 6. Ensure equipment is grounded.
- 7. Contain (Lockout/Tagout) hazardous energy.
- 8. Inspect equipment.
- 9. Service equipment.
- 10. Document maintenance performed and deficiencies/discrepancies noted.

### PREREQUISITE EVENTS:

1161-ADMN-1001 1161-ADMN-1002 1161-ADMN-1006 1161-ADMN-1011

# RELATED EVENTS:

1161-ADMN-1007 1161-ADMN-1008

#### **REFERENCES:**

- 1. FP 11502A Fielding Plan for the Cooling and Refrigeration Expeditionary Kit TAMCN B0061
- 2. FP 11574A/11609A Fielding Plan for the Field Refrigeration Systems TAMCN B00497B and B00757B
- 3. SI 11502A-OI Warranty Procedures for the Cooling and Refrigeration Expeditionary Kit
- 4. SI 11574A/11609A-OI Warranty Procedures for Field Refrigeration System
- 5. SL-3-11502A Components List for Cooling and Refrigeration Expeditionary Kit (CREK)
- 6. SL-3-11574A Components List for Large Field Refrigeration System
- 7. SL-3-11609A Components List for Small Field Refrigeration System
- 8. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 9. TM 11502A-OI User's Manual for Cooling and Refrigeration Expeditionary Kit (CREK)
- 10. TM 11574A-OI Operation and Unit Maintenance Instructions with Illustrated Parts Breakdown for Large Field Refrigeration System
- 11. TM 11609A-OI Operation and Unit Maintenance Instructions with Illustrated Parts Breakdown for Small Field Refrigeration System
- 12. TM 4700-15/1\_ Ground Equipment Record Procedures

#### SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]
Small Field Refrigeration System (SFRS) [B0075] - or Large Field Refrigeration System (LFRS) [B0049]

#### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])
Parts for scheduled services

OTHER SUPPORT REQUIREMENTS: 120/208VAC 60Hz 3-Phase electrical power source

1161-MANT-1311: Diagnose an ECU malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: ECU is Environmental Control Unit

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, electrical power source, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective action(s) initiated.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FROST BITE HAZARD(S).
- 3. Review LTI.
- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE).
- 6. Ensure equipment is grounded.
- 7. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 8. Check switches/gauges for correct settings.
- 9. Determine if malfunction is electrical or mechanical.
- 10. Isolate faulty circuit(s)/component(s).
- 11. Determine if circuit/component fault was caused by a defect elsewhere (repeating steps 8, 9, and/or 10 as required).
- 12. Determine echelon(s) of maintenance.
- 13. Document findings (complete LTI/update Service Request).
- 14. Order parts (if required).

# PREREQUISITE EVENTS:

| 1161-ADMN-1001 | 1161-ADMN-1002 | 1161-ADMN-1006 |
|----------------|----------------|----------------|
| 1161-ADMN-1018 | 1161-MANT-1101 | 1161-MANT-1102 |

# RELATED EVENTS:

| 1161-ADMN-1008 | 1161-ADMN-1010 | 1161-ADMN-1011 |
|----------------|----------------|----------------|
| 1161-MANT-1211 |                |                |

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. Doolin's Trouble Shooters Bible
- 3. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 4. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 5. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- $6.\ \ \text{TM } 10209-10/1\_$  Use and Care of Hand Tools and Measuring Tools
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)

Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]

Anti-Static Wrist Strap

Faulty Environmental Control Unit (ECU) or components

MATERIAL: NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

OTHER SUPPORT REQUIREMENTS: Electrical power source may be required

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Must have EPA Section 608 Type II Technician Certificate.

1161-MANT-1318: Diagnose an ITEG ECU malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

#### **DESCRIPTION:**

ITEG is Integrated Trailer/ECU/Generator.

ECU is Environmental Control Unit.

BILLETS: Refrigeration and Air Conditioning Technician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective actions initiated.

- 1. Identify ELECTROCUTION HAZARD(S).
- Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Identify FROST BITE HAZARD(S).
- 5. Review LTI.
- 6. Review equipment technical manuals.
- 7. Don Personal Protective Equipment (PPE).
- 8. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 9. Check switches/gauges for correct settings.
- 10. Determine if malfunction is ECU or generator related.
- 11. Trace current/voltage paths in circuits.
- 12. Determine if malfunction is electrical or mechanical.
- 13. Isolate faulty circuit(s)/component(s).

- 14. Determine if circuit/component fault was caused by a defect elsewhere (repeating steps 10, 11, 12 and/or 13 as required).
- 15. Determine echelon(s) of maintenance.
- 16. Document findings (complete LTI/update Service Request).
- 17. Order parts (if required).

### PREREQUISITE EVENTS:

| 1161-ADMN-1001 | 1161-ADMN-1002 | 1161-ADMN-1006 |
|----------------|----------------|----------------|
| 1161-ADMN-1018 | 1161-MANT-1101 | 1161-MANT-1102 |

### **RELATED EVENTS:**

| 1161-ADMN-1008 | 1161-ADMN-1010 | 1161-ADMN-1011 |
|----------------|----------------|----------------|
| 1161-MANT-1218 | 1161-MANT-1311 |                |

#### REFERENCES:

- 1. Doolin's Trouble Shooters Bible
- 2. FP 11490A Fielding Plan for Integrated Trailer Environmental Control Unit & Generator (ITEG)
- 3. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 4. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 5. SI 11490A-OI Warranty Procedures for the Integrated Trailer-ECU-Generator
- 6. SL-3-11490A Components List for Integrated Trailer, Environmental Control Unit, Generator (ITEG)
- 7. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 8. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 9. TM 11490A-OR Operation Manual with Repair Parts List, Integrated Trailer-ECU-Generator (ITEG)
- 10. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)

Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]

Anti-Static Wrist Strap (if required)

Faulty Integrated Trailer/ECU/Generator (ITEG) [B0018] or components

# MATERIAL:

NAVMC  $\overline{10560}$  (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI]) Fuel

## MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Must have EPA Section 608 Type II Technician Certificate. Assistance from an Engineer Equipment Electrical Systems Technician (MOS 1142) may be required to assist in diagnosing malfunctions between the ECU and generator portions of the ITEG.

SPECIAL PERSONNEL CERTS: Graduates of the Basic Refrigeration and Air Conditioning Technician Course (CID: M0311D2) ARE NOT licensed as ITEG operators.

1161-MANT-1335: Diagnose an FRS malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: FRS is Field Refrigeration System.

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, electrical power source, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective action(s) initiated.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FROST BITE HAZARD(S).
- 3. Review LTI.
- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE).
- 6. Ensure equipment is grounded.
- 7. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 8. Check switches/gauges for correct settings.
- 9. Determine if malfunction is electrical or mechanical.
- 10. Isolate faulty circuit(s)/component(s).
- 11. Determine if circuit/component fault was caused by a defect elsewhere (repeating steps 8, 9 and/or 10 as required).
- 12. Determine echelon(s) of maintenance.
- 13. Document findings (complete LTI/update Service Request).
- 14. Order parts (if required).

# PREREQUISITE EVENTS:

| 1161-ADMN-1001 | 1161-ADMN-1002 | 1161-ADMN-1006 |
|----------------|----------------|----------------|
| 1161-ADMN-1018 | 1161-MANT-1101 | 1161-MANT-1102 |

# RELATED EVENTS:

| 1161-ADMN-1008 | 1161-ADMN-1010 | 1161-ADMN-1011 |
|----------------|----------------|----------------|
| 1161-MANT-1235 |                |                |

### **REFERENCES:**

- 1. Doolin's Trouble Shooters Bible
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 5. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 6. TM 11502A-OI User's Manual for Cooling and Refrigeration Expeditionary Kit (CREK)

- 7. TM 11574A-OI Operation and Unit Maintenance Instructions with Illustrated Parts Breakdown for Large Field Refrigeration System
- 8. TM 11609A-OI Operation and Unit Maintenance Instructions with Illustrated Parts Breakdown for Small Field Refrigeration System
- 9. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE) Cooling and Refrigeration Expeditionary Kit (CREK) [B0061] Anti-Static Wrist Strap (if required) Faulty Field Refrigeration System (FRS) or components

MATERIAL: NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

OTHER SUPPORT REQUIREMENTS: Electrical power source may be required

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Must have EPA Section 608 Type II Technician Certificate.

1161-MANT-1401: Repair an ECU mechanical system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: ECU is Environmental Control Unit.

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, refrigerant (if needed), tools, forms, and references.

 $\underline{\text{STANDARD}}$ : So equipment functions/operates as specified in the equipment's technical manuals and repairs are documented per TM 4700-15/1H.

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FROST BITE HAZARD(S).
- 3. Review Service Request (SR).
- 4. Inventory parts from layette.
- 5. Review equipment technical manuals.
- 6. Don Personal Protective Equipment (PPE).
- 7. Ensure equipment is grounded.
- 8. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).

- 9. Recover refrigerant (if necessary).
- 10. Remove faulty part(s).
- 11. Prepare area(s) for new part(s).
- 12. Attach new part(s), making necessary adjustments.
- 13. Vacuum test refrigerant system (if needed).
- 14. Recharge refrigerant system (if needed).
- 15. Test repairs.
- 16. Document repairs.

#### PREREQUISITE EVENTS:

| 1161-ADMN-1001 | 1161-ADMN-1002 | 1161-ADMN-1006 |
|----------------|----------------|----------------|
| 1161-ADMN-1008 | 1161-ADMN-1011 | 1161-ADMN-1018 |
| 1161-MANT-1102 | 1161-MANT-1103 | 1161-MANT-1104 |
| 1161-MANT-1105 | 1161-MANT-1106 | 1161-MANT-1107 |
| 1161-MANT-1311 |                |                |

## RELATED EVENTS:

1161-MANT-1211 1161-MANT-1403

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures

# **SUPPORT REQUIREMENTS:**

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]
Degraded/deadlined Environmental Control Unit (ECU)

### MATERIAL:

Refrigerant (if needed)

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

OTHER SUPPORT REQUIREMENTS: Electrical power source may be required to test repairs

### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Must have EPA Section 608 Type II Technician Certificate.

1161-MANT-1402: Repair a refrigeration system mechanical system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

# INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, refrigerant (if needed), tools, forms, and references.

**STANDARD:** So equipment functions/operates as specified in equipment's technical manuals and repairs are documented per TM 4700-15/1H.

#### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FROST BITE HAZARD(S).
- 3. Review Service Request (SR).
- 4. Inventory parts from layette.
- 5. Review equipment technical manuals.
- 6. Don Personal Protective Equipment (PPE).
- 7. Ensure equipment is grounded.
- 8. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 9. Recover refrigerant (if necessary).
- 10. Remove faulty part(s).
- 11. Prepare area(s) for new part(s).
- 12. Attach new part(s), making necessary adjustments.
- 13. Vacuum test refrigerant system (if needed).
- 14. Recharge refrigerant system (if needed).
- 15. Test repairs.
- 16. Document repairs.

#### PREREQUISITE EVENTS:

| ~                                | <u> </u>       |                |
|----------------------------------|----------------|----------------|
| 1161-ADMN-1001                   | 1161-ADMN-1002 | 1161-ADMN-1006 |
| 1161-ADMN-1008                   | 1161-ADMN-1011 | 1161-ADMN-1018 |
| 1161-MANT-1102                   | 1161-MANT-1103 | 1161-MANT-1104 |
| 1161-MANT-1105                   | 1161-MANT-1106 | 1161-MANT-1107 |
| 1161-MANT-1335                   |                |                |
| 1161-MANT-1102<br>1161-MANT-1105 | 1161-MANT-1103 | 1161-MANT-11   |

# RELATED EVENTS:

1161-MANT-1235 1161-MANT-1404

#### REFERENCES:

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 4. TM 11502A-OI User's Manual for Cooling and Refrigeration Expeditionary Kit (CREK)
- 5. TM 11574A-OI Operation and Unit Maintenance Instructions with Illustrated Parts Breakdown for Large Field Refrigeration System
- 6. TM 11609A-OI Operation and Unit Maintenance Instructions with Illustrated Parts Breakdown for Small Field Refrigeration System
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE) Cooling and Refrigeration Expeditionary Kit (CREK) [B0061] Degraded/deadlined refrigeration equipment

#### MATERIAL:

Refrigerant (if needed)

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

OTHER SUPPORT REQUIREMENTS: Electrical power source may be required to test repairs.

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Must have EPA Section 608 Type II Technician Certificate.

1161-MANT-1403: Repair an ECU electrical system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: ECU is Environmental Control Unit.

**BILLETS:** Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, tools, forms, and references.

**STANDARD:** So equipment functions/operates as specified in the equipment's technical manuals and repairs are documented per TM 4700-15/1H.

- 1. Identify ELECTROCUTION HAZARD(S).
- Identify FROST BITE HAZARD(S).
- 3. Review Service Request (SR).
- 4. Inventory parts from layette.
- 5. Review equipment technical manuals.
- 6. Don Personal Protective Equipment (PPE).
- 7. Ensure equipment is grounded.
- 8. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 9. Remove faulty part(s).
- 10. Prepare area(s) for new part(s).
- 11. Attach new part(s), making necessary adjustments.
- 12. Test repairs.
- 13. Document repairs.

# PREREQUISITE EVENTS:

| 1161-ADMN-1001 | 1161-ADMN-1002 | 1161-ADMN-1006 |
|----------------|----------------|----------------|
| 1161-ADMN-1008 | 1161-ADMN-1011 | 1161-MANT-1101 |
| 1161-MANT-1108 | 1161-MANT-1109 | 1161-MANT-1311 |

### RELATED EVENTS:

1161-MANT-1211 1161-MANT-1401

#### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 5. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)

Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]

Anti-Static Wrist Strap

Degraded/deadlined Environmental Control Unit (ECU)

## MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

OTHER SUPPORT REQUIREMENTS: Electrical power source may be required to test repairs

1161-MANT-1404: Repair a refrigeration system electrical system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, tools, forms, and references.

**STANDARD:** So equipment functions/operates as specified in equipment's technical manuals and repairs are documented per TM 4700-15/1H.

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FROST BITE HAZARD(S).

- 3. Review Service Request (SR).
- 4. Inventory parts from layette.
- 5. Review equipment technical manuals.
- 6. Don Personal Protective Equipment (PPE).
- 7. Ensure equipment is grounded.
- 8. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 9. Remove faulty part(s).
- 10. Prepare area(s) for new part(s).
- 11. Attach new part(s), making necessary adjustments.
- 12. Test repairs.
- 13. Document repairs.

## PREREQUISITE EVENTS:

| 1161-ADMN-1001 | 1161-ADMN-1002 | 1161-ADMN-1006 |
|----------------|----------------|----------------|
| 1161-ADMN-1008 | 1161-ADMN-1011 | 1161-MANT-1101 |
| 1161-MANT-1108 | 1161-MANT-1109 | 1161-MANT-1335 |

## RELATED EVENTS:

1161-MANT-1235 1161-MANT-1402

# **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 4. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 5. TM 11502A-OI User's Manual for Cooling and Refrigeration Expeditionary Kit (CREK)
- 6. TM 11574A-OI Operation and Unit Maintenance Instructions with Illustrated Parts Breakdown for Large Field Refrigeration System
- 7. TM 11609A-OI Operation and Unit Maintenance Instructions with Illustrated Parts Breakdown for Small Field Refrigeration System
- 8. TM 4700-15/1\_ Ground Equipment Record Procedures

# **SUPPORT REQUIREMENTS:**

# **EQUIPMENT:**

Personal Protective Equipment (PPE)

Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]

Degraded/deadlined Refrigeration System

#### MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

OTHER SUPPORT REQUIREMENTS: Electrical power source may be required to test repairs.

**1161-XENG-1611:** Install a 1.5-Ton ECU

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: An ECU is an Environmental Control Unit.

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, personnel, material, and references.

**STANDARD:** So cooling, heating, dehumidification, and/or air filtering of designated military shelter/van is supported per TM 11080A/11080B-OI.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Don Personal Protective Equipment (PPE).
- 3. Lock out/Tag out electrical power source, ensuring power stays off.
- 4. Install ECU and accessories, connecting power cable.
- 5. Perform before operation checks on ECU.
- 6. Reestablish electrical power.
- 7. Start ECU.
- 8. Perform during operation checks on ECU.

### PREREQUISITE EVENTS:

1161-ADMN-1001 1161-ADMN-1002

# RELATED EVENTS:

1161-XENG-1614 1161-XENG-1634

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. SL-3-4120 Components List for Family of Environmental Control Units
- 3. TM 11080A/11080B-OI Operation and Unit Maintenance Instructions with Illustrated Parts Breakdown for Environmental Control Unit, 1.5-Ton, 18,000 BTU

# SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]

Designated military shelter/tactical vehicle

Environmental Control Unit (ECU), 1.5-Ton [B0003]

MATERIAL: Lockout/Tagout devices

UNITS/PERSONNEL: The 1.5-Ton ECU is a four-man lift piece of equipment

1161-XENG-1614: Set up a Packaged System ECU

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

DESCRIPTION: An ECU is an Environmental Control Unit.

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With refrigeration and environmental control support plan and established Course of Action (COA), equipment, personnel, and references.

**STANDARD:** So unit's mission is supported per the commander's intent and ECU is set up in accordance with equipment's technical manuals.

#### PERFORMANCE STEPS:

- 1. Review refrigeration and environmental control support plan and Course of Action (COA).
- 2. Review references.
- 3. Reassess operational risk.
- 4. Don Personal Protective Equipment (PPE).
- 5. Prepare site.
- 6. Set up ECU and accessories, connecting power source.
- 7. Camouflage equipment and accessories.
- 8. Provide for security.
- 9. Perform before operation checks on ECU.
- 10. Start ECU.
- 11. Perform during operation checks on ECU.

**PREREQUISITE EVENTS:** 1161-ADMN-1001

#### RELATED EVENTS:

1161-XENG-1611 1161-XENG-1634 1161-XENG-1635

#### **REFERENCES:**

- 1. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 2. SL-3-4120 Components List for Family of Environmental Control Units
- TM 11079A/11079B-OI Operator and Field Maintenance Manual Including Repair Parts and Special Tools List (RPSTL) for Environmental Control Unit, 10 Ton, 120,000 BTU (120K ECU)
- 4. TM 11082A/11082B-OI Operator and Field Maintenance Manual Including Repair Parts and Special Tools List (RPSTL) for Environmental Control Unit, 3 Ton, 36,000 BTU/hr (36K ECU)
- 5. TM 11084A/11084B-OI Operator and Field Maintenance Manual Including Repair Parts and Special Tools List (RPSTL) for Environmental Control Unit, 5-Ton, 60,000 BTU/hr (60K ECU)

# SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]
Forklift (with capacity to lift ECU)
Earthmoving equipment (if required to prepare site)
Electric power generation and distribution equipment

Environmental Control Unit (ECU) (Size as designated by the support plan)

MATERIAL: Refrigeration and environmental control support plan with established Course of Action (COA)

### UNITS/PERSONNEL:

MOS 1345 (Engineer Equipment Operator) to prepare site and move ECU MOS 1141 (Electrician) to establish electrical power support

### **MISCELLANEOUS:**

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for equipment set up.

**1161-XENG-1634:** Install a 3/4-Ton ECU

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: An ECU is an Environmental Control Unit.

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, personnel, material, and references.

**STANDARD:** So cooling, heating, dehumidification and/or air filtering of designated military shelter/tactical vehicle is supported per TM 11453A/11453B-OI.

# PERFORMANCE STEPS:

- 1. Review references.
- 2. Don Personal Protective Equipment (PPE).
- 3. Lock out/Tag out electrical power source, ensuring power stays off.
- 4. Install ECU and accessories, connecting power cable.
- 5. Perform before operation checks on ECU.
- 6. Reestablish electrical power.
- 7. Start ECU.
- 8. Perform during operation checks on ECU.

# PREREQUISITE EVENTS:

1161-ADMN-1001 1161-ADMN-1002

#### RELATED EVENTS:

1161-XENG-1611 1161-XENG-1614

## **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. SL-3-4120 Components List for Family of Environmental Control Units
- 3. TM 11453A/11453B-OI Operation and Unit Maintenance Instructions with

Illustrated Parts Breakdown for Environmental Control Unit, .75-Ton, 9,000 BTU/hr (9K ECU)

# **SUPPORT REQUIREMENTS:**

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]
Designated military shelter/tactical vehicle
Environmental Control Unit (ECU), 3/4-Ton [B0074]

MATERIAL: Lockout/Tagout devices

UNITS/PERSONNEL: The 3/4-Ton ECU is a two-man lift piece of equipment

1161-XENG-1635: Set up an FRS

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** An FRS is a Field Refrigeration System.

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With refrigeration and environmental control support plan and established Course of Action (COA), equipment, personnel, and references.

**STANDARD:** So unit's mission is supported per the commander's intent and FRS is set up in accordance with equipment's technical manuals.

# PERFORMANCE STEPS:

- 1. Review references.
- 2. Don Personal Protective Equipment (PPE).
- 3. Prepare site.
- 4. Set up FRS and accessories, connecting power source.
- 5. Camouflage equipment and accessories.
- 6. Perform before operation checks on FRS.
- 7. Start FRS.
- 8. Perform during operation checks on FRS.

PREREQUISITE EVENTS: 1161-ADMN-1001

**RELATED EVENTS:** 1161-XENG-1614

### **REFERENCES:**

- 1. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 2. SL-3-11502A Components List for Cooling and Refrigeration Expeditionary Kit (CREK)
- 3. SL-3-11574A Components List for Large Field Refrigeration System
- 4. SL-3-11609A Components List for Small Field Refrigeration System

- 5. TM 11502A-OI User's Manual for Cooling and Refrigeration Expeditionary Kit (CREK)
- 6. TM 11574A-OI Operation and Unit Maintenance Instructions with Illustrated Parts Breakdown for Large Field Refrigeration System
- 7. TM 11609A-OI Operation and Unit Maintenance Instructions with Illustrated Parts Breakdown for Small Field Refrigeration System
- 8. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

## SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]
Forklift (with capacity to lift FRS)
Field Refrigeration System (Size as designated by the support plan)

MATERIAL: Refrigeration and environmental control support plan with established Course of Action (COA)

# UNITS/PERSONNEL:

MOS 1345 (Engineer Equipment Operator) to lift FRS MOS 1141 (Electrician) to establish electrical power support

# 10004. 2000-LEVEL EVENTS

1161-ADMN-2015: Maintain high pressure air conditioning systems

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**<u>DESCRIPTION</u>**: This event encompasses maintaining high pressure air conditioning units for automotive and engineer equipment.

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, material, tools, forms and references.

**STANDARD:** So equipment functions/operates as specified in equipment's technical manual(s) and maintenance is documented per TM 4700-15/1H.

- Identify ELECTRIC SHOCK HAZARD(S).
- 2. Identify FROST BITE HAZARD(S).
- 3. Review Service Request (SR).
- 4. Review equipment technical manuals.
- 5. Perform Limited Technical Inspection (LTI).
- 6. Don Personal Protective Equipment (PPE).
- 7. Ensure any stored/hazardous energy is dissipated/controlled

(Lockout/Tagout).

- 8. Perform maintenance checks and services, as required.
- 9. Troubleshoot equipment.
- 10. Recover refrigerant (if necessary).
- 11. Repair equipment, as required.
- 12. Recharge refrigerant system (if needed).
- 13. Test repairs.
- 14. Document maintenance performed.
- 15. Maintain EPA Section 609 Technician certification requirements.

# PREREQUISITE EVENTS:

| 1161-ADMN-1001<br>1161-ADMN-1008<br>1161-MANT-1102<br>1161-MANT-1105<br>1161-MANT-1108 | 1161-ADMN-1002<br>1161-ADMN-1011<br>1161-MANT-1103<br>1161-MANT-1106<br>1161-MANT-1109 | 1161-ADMN-1006<br>1161-MANT-1101<br>1161-MANT-1104<br>1161-MANT-1107 |
|----------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|----------------------------------------------------------------------|
| RELATED EVENTS:<br>1161-ADMN-1017<br>1161-MANT-1211<br>1161-MANT-1403                  | 1161-ADMN-1018<br>1161-MANT-1311                                                       | 1161-ADMN-2016<br>1161-MANT-1401                                     |

# REFERENCES:

- 1. Appropriate Technical Manuals
- 2. Doolin's Trouble Shooters Bible
- 3. 40 CFR 82 Chapter 40, Code of Federal Regulations, Part Number 82 (Protection of Stratospheric Ozone)
- 4. 42 USC 85 VI 7671 Title 42, United States Code, Chapter 85, Subchapter VI, Section 7671 (Ozone Protection)
- 5. MCO 5090.1 Chlorofluorocarbons (CFC's) and Halons
- 6. MRAC Modern Refrigeration & Air Conditioning Text Book
- 7. PL 101-549 Public Law No: 101-549 Clean Air Act Amendments of 1990
- 8. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 9. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 10. TM 11502A-OI User's Manual for Cooling and Refrigeration Expeditionary Kit (CREK)

# SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)
Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]
Air conditioning equipment being serviced

#### MATERIAL:

Refrigerant (if needed)

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

UNITS/PERSONNEL: Operator, licensed on equipment to be serviced.

# MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Section 609 certification is obtained from an authorized EPA test proctoring activity. Current information on Section 609 (dealing with automotive air conditioning systems) of the Clean Air Act (CAA) can be found at <a href="www.epa.gov/ozone/title6/609">www.epa.gov/ozone/title6/609</a>. An Advanced Refrigeration and Air Conditioning Technician course is currently not available at a Formal School. Until one is established, training for this event is not available to the 1161 unless it is obtained from outside agencies.

SPECIAL PERSONNEL CERTS: EPA Section 609 Technician Certificate.

1161-ADMN-2016: Maintain low pressure air conditioning systems

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: This event encompasses maintaining low pressure air conditioning units for automotive and engineer equipment.

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, material, tools, forms and references.

**STANDARD:** So equipment functions/operates as specified in equipment's technical manual(s) and maintenance is documented per TM 4700-15/1H.

# PERFORMANCE STEPS:

- 1. Identify ELECTRIC SHOCK HAZARD(S).
- 2. Identify FROST BITE HAZARD(S).
- 3. Review Service Request (SR).
- 4. Review equipment technical manuals.
- 5. Perform Limited Technical Inspection (LTI).
- 6. Don Personal Protective Equipment (PPE).
- 7. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 8. Perform maintenance checks and services, as required.
- 9. Troubleshoot equipment.
- 10. Recover refrigerant (if necessary).
- 11. Repair equipment, as required.
- 12. Recharge refrigerant system (if needed).
- 13. Test repairs.
- 14. Document maintenance performed.
- 15. Maintain EPA Section 608 Technician certification requirements.

### PREREQUISITE EVENTS:

| 200000000000000000000000000000000000000 |                |                |
|-----------------------------------------|----------------|----------------|
| 1161-ADMN-1001                          | 1161-ADMN-1002 | 1161-ADMN-1006 |
| 1161-ADMN-1008                          | 1161-ADMN-1011 | 1161-ADMN-1017 |
| 1161-ADMN-1018                          | 1161-MANT-1101 | 1161-MANT-1102 |
| 1161-MANT-1103                          | 1161-MANT-1104 | 1161-MANT-1105 |

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1161-MANT-1106 1161-MANT-1107 1161-MANT-1108

1161-MANT-1109

RELATED EVENTS:

1161-ADMN-2015 1161-MANT-1211 1161-MANT-1311

1161-MANT-1401 1161-MANT-1403

### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. Doolin's Trouble Shooters Bible
- 3. 40 CFR 82 Chapter 40, Code of Federal Regulations, Part Number 82 (Protection of Stratospheric Ozone)
- 4. 42 USC 85 VI 7671 Title 42, United States Code, Chapter 85, Subchapter VI, Section 7671 (Ozone Protection)
- 5. MCO 5090.1 Chlorofluorocarbons (CFC's) and Halons
- 6. MRAC Modern Refrigeration & Air Conditioning Text Book
- 7. PL 101-549 Public Law No: 101-549 Clean Air Act Amendments of 1990
- 8. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 9. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 10. TM 11502A-OI User's Manual for Cooling and Refrigeration Expeditionary Kit (CREK)

### SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

- Personal Protective Equipment (PPE)
- Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]
- Air conditioning equipment being serviced

#### MATERIAL:

Refrigerant (if needed)

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

UNITS/PERSONNEL: Operator, licensed on equipment to be serviced.

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: An Advanced Refrigeration and Air Conditioning Technician course is currently not available at a Formal School. Until one is established, this event is MOJT for initial training.

SPECIAL PERSONNEL CERTS: Must have EPA Section 608 Type II Technician Certificate.

1161-ADMN-2021: Apply safety programs

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Refrigeration and Air Conditioning Technician, Section Head

**GRADES:** CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With resources and references.

 $\underline{\underline{\text{STANDARD}}}$ : So applicable safety measures and procedures are in place and  $\underline{\underline{\text{enforced}}}$ .

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Identify equipment safety requirements.
- 3. Identify personnel safety requirements.
- 4. Conduct Operational Risk Assessments.
- 5. Implement safety procedures.
- 6. Conduct safety awareness training.
- 7. Evaluate safety programs.
- 8. Enforce safety regulations.
- 9. Provide input for/submit required reports.

# PREREQUISITE EVENTS:

1161-ADMN-1001 1161-ADMN-1002

### RELATED EVENTS:

1141-ADMN-2021 1142-ADMN-2021 1171-ADMN-2021

## REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCO 3500.27\_ Operational Risk Management (ORM)
- 3. MCO 5100.19 Marine Corps Traffic Safety Program (Drivesafe)
- 4. MCO 5100.29\_ Marine Corps Safety Program
- 5. MCO 5100.30\_ Marine Corps Recreation and Off-Duty Safety (RODS) Program
- 6. MCO 5100.34\_ Deadline Safety of Use Message Instructions to Suspend Operations of Marine Corps Ground Equipment and Weapons Systems and Safety of Use Alerts
- 7. MCO 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Policy Order
- 8. MCO 5104.2\_ Marine Corps Radiofrequency Electromagnetic Field Personnel Protection Program
- 9. MCO 5104.3\_ Marine Corps Radiation Safety Program
- 10. MCO P5102.1\_ Navy and Marine Corps Mishap and Safety Investigation Reporting and Record Keeping Manual
- 11. NAVMC DIR 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Program Manual
- 12. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 13. UNIT SOP Unit's Standing Operating Procedures

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: An Advanced Refrigeration and Air Conditioning Technician course is currently not available at a Formal School. Until one is established, this event is MOJT for initial training.

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1161-ADMN-2022: Apply environmental regulations

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Refrigeration and Air Conditioning Technician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With references.

STANDARD: So environmental policies and procedures will be adhered to.

#### PERFORMANCE STEPS:

1. Review references.

- 2. Verify section's compliance with applicable environmental regulations and restrictions.
- 3. Monitor platoon/section hazardous material disposal program.
- 4. Maintain hazardous materials storage areas.
- 5. Maintain Material Safety Data Sheets (MSDS).
- 6. Report any situations that require reporting.

PREREQUISITE EVENTS: 1161-ADMN-1004

## RELATED EVENTS:

1141-ADMN-2022 1142-ADMN-2022 1171-ADMN-2022

# REFERENCES:

- 1. INSTALLATION SOP Installation's Standing Operating Procedures
- 2. MCO 4450.12\_ Storage and Handling of Hazardous Materials
- 3. MCO P5090.2\_ Environmental Compliance and Protection Manual
- 4. MCRP 4-11B Environmental Considerations
- 5. OPNAVINST 5090.1\_ Environmental Readiness Program Manual

# **MISCELLANEOUS:**

<u>ADMINISTRATIVE INSTRUCTIONS</u>: An Advanced Refrigeration and Air Conditioning Technician course is currently not available at a Formal School. Until one is established, this event is MOJT for initial training.

1161-ADMN-2023: Conduct MOS training

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**DESCRIPTION:** MOS is Military Occupational Specialty.

BILLETS: Refrigeration and Air Conditioning Technician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With training resources, records, and references.

STANDARD: So MOS proficiency is maintained.

# PERFORMANCE STEPS:

- 1. Review references.
- 2. Identify individual training requirements (review T&R Manual and MOS Roadmaps).
- 3. Identify unit training requirements (review unit METL/Commander's intent).
- 4. Determine on the job and sustainment training requirements by grade and MOS.
- 5. Develop lesson plans.
- 6. Develop training methods/aids/materials (as required).
- 7. Conduct training.
- 8. Document training.
- 9. Encourage use of self-directed study and assist in providing resources.

# RELATED EVENTS:

1141-ADMN-2023 1142-ADMN-2023 1171-ADMN-2023

### **REFERENCES:**

- 1. MCO 1553.3\_ Unit Training Management (UTM) Program
- 2. MCO 1553.4 Professional Military Education (PME)
- 3. MCO 3500.26\_ Universal Naval Task List (UNTL) Version 3.0
- 4. MCRP 3-0A Unit Training Management Guide
- 5. MCRP 3-0B How to Conduct Training
- 6. NAVMC 1553.1\_ Systems Approach to Training (SAT) Users Guide
- 7. NAVMC 3500.12\_ Marine Corps Engineer and Utilities Training and Readiness Manual
- 8. OPNAVINST 1560.10\_ Administration of the United Services Military Apprenticeship Program (USMAP)
- 9. UNIT SOP Unit's Standing Operating Procedures

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: An Advanced Refrigeration and Air Conditioning Technician course is currently not available at a Formal School. Until one is established, this event is MOJT for initial training.

1161-ADMN-2041: Initiate a PQDR

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** PQDR is Product Quality Deficiency Report (SF 368).

BILLETS: Refrigeration and Air Conditioning Technician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With a defective item, blank forms, and references.

STANDARD: So deficiency can be identified.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Collect data.
- 3. Verify deficiency requires a PQDR.
- 4. Determine if deficiency is Category I or Category II.
- 5. Establish exhibit controls using DD Forms 1575 and 2332 (if required).
- 6. Complete PODR.
- 7. Submit PQDR per Unit SOP.

#### RELATED EVENTS:

1141-ADMN-2041 1142-ADMN-2041 1171-ADMN-2041

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO 4855.10\_ Product Quality Deficiency Report (PQDR)
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures
- 4. UNIT SOP Unit's Standing Operating Procedures

# SUPPORT REQUIREMENTS:

### MATERIAL:

DD Form 1575 (Suspended Tag - Materiel)

DD Form 2332 (Product Quality Deficiency Report Exhibit)

SF 368 (Product Quality Deficiency Report [PQDR])

### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: An Advanced Refrigeration and Air Conditioning Technician course is currently not available at a Formal School. Until one is established, this event is MOJT for initial training. Additional information for this event can be found at http://www.logcom.usmc.mil/pqdr.

1161-ADMN-2051: Establish equipment preventive maintenance schedule

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Refrigeration and Air Conditioning Technician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment records, forms, and references.

STANDARD: So operational readiness of equipment is maintained.

- 1. Review references.
- 2. Determine equipment Preventive Maintenance Checks and Services (PMCS) requirements.

- 3. Audit equipment records.
- 4. Complete PMCS roster (NAVMC 10561).

# PREREQUISITE EVENTS:

1161-ADMN-1006 1161-ADMN-1011

### RELATED EVENTS:

1141-ADMN-2051 1142-ADMN-2051 1171-ADMN-2051

#### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCO P4790.2\_ MIMMS Field Procedures Manual
- 3. MCWP 4-11.4 Maintenance Operations
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. UNIT SOP Unit's Standing Operating Procedures

# SUPPORT REQUIREMENTS:

#### MATERIAL:

NAVMC 10561 (Preventive Maintenance Checks and Services (PMCS) Roster) Equipment records

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: An Advanced Refrigeration and Air Conditioning Technician course is currently not available at a Formal School. Until one is established, this event is MOJT for initial training.

1161-ADMN-2061: Maintain PEB

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: PEB is Pre-Expended Bin.

**BILLETS:** Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With commander's pre-expended bin authorization and references.

**STANDARD:** So common, low-cost, high usage parts are continuously available for immediate maintenance/repair of equipment.

- 1. Review references.
- 2. Identify criteria for items placed in PEB.
- 3. Validate authorized PEB listing, ensuring it is signed annually by the commander.
- 4. Identify accountability requirements.
- 5. Requisition replacement parts, as required.
- 6. Roll back/dispose excess items.

RELATED EVENTS:

1141-ADMN-2061 1142-ADMN-2061 1161-ADMN-2061

1161-ADMN-2062 1171-ADMN-2061

# REFERENCES:

1. Appropriate Technical Manuals

- 2. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 3. MCO P4790.2\_ MIMMS Field Procedures Manual
- 4. UNIT SOP Unit's Standing Operating Procedures

## SUPPORT REQUIREMENTS:

MATERIAL: Storage bins

1161-ADMN-2062: Maintain equipment repair parts bins

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With forms and references.

**STANDARD:** So parts are kept in appropriate bin (layette) until maintenance/repair of specified equipment is accomplished.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Receive repair parts, placing repair parts in appropriate bin.
- 3. Update Service Request (SR).
- 4. Take corrective action if repair parts do not match requisitions.
- 5. Inventory bin every 2 weeks.
- 6. Issue repair parts when all are received, updating SR per unit's SOP.
- 7. Debrief task in GCSS-MC.

### RELATED EVENTS:

1141-ADMN-2062 1142-ADMN-2062 1161-ADMN-2061 1171-ADMN-2062

#### 11/1-ADMN-2002

# REFERENCES:

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. MCO P4790.2\_ MIMMS Field Procedures Manual
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures
- 6. UNIT SOP Unit's Standing Operating Procedures

# SUPPORT REQUIREMENTS:

# MATERIAL:

Storage bins Forms

1161-ADMN-2071: Monitor maintenance management reports

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Refrigeration and Air Conditioning Technician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: With access to Global Combat Support System-Marine Corps (GCSS-MC), maintenance management reports, supporting documentation, and references.

**STANDARD:** So accuracy of maintenance management reports is validated and unit's readiness and equipment serviceability are enhanced.

# PERFORMANCE STEPS:

- 1. Obtain current Maintenance Process Report (MPR).
- 2. Review references.
- 3. Review supporting documentation (equipment records).
- 4. Review MPR maintenance cycle times.
- 5. Validate daily maintenance reports.
- 6. Validate weekly maintenance reports.
- 7. Validate readiness reports.
- 8. Identify "exceptions."
- 9. Determine actions (if any) to correct "exceptions."
- 10. Make corrections (if any) to Service Requests (SR).
- 11. Debrief SRs.

# PREREQUISITE EVENTS:

| 1161-ADMN-1006 | 1161-ADMN-1007 | 1161-ADMN-1008 |
|----------------|----------------|----------------|
| 1161-ADMN-1009 | 1161-ADMN-1010 | 1161-ADMN-1011 |

# RELATED EVENTS:

| 1141-ADMN-2071 | 1142-ADMN-2071 | 1161-ADMN-2061 |
|----------------|----------------|----------------|
| 1161-ADMN-2062 | 1161-ADMN-2072 | 1171-ADMN-2071 |

#### **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 4. MCO 3000.11\_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
- 5. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
- 6. MCO P4790.2\_ MIMMS Field Procedures Manual
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures
- 8. UNIT SOP Unit's Standing Operating Procedures

# SUPPORT REQUIREMENTS:

MATERIAL: Maintenance Process Report (MPR)

**1161-ADMN-2072:** Monitor maintenance related programs

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Refrigeration and Air Conditioning Technician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, equipment records, and references.

STANDARD: So unit's readiness and equipment serviceability are enhanced.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Determine unit's maintenance program requirements.
- 3. Inspect equipment.
- 4. Monitor Modification Control program.
- 5. Monitor Calibration Control program.
- 6. Monitor New Equipment Warranty program.
- 7. Monitor Quality Deficiency (QDR) program.
- 8. Monitor Recoverable Items (WIR) program.
- 9. Monitor Quality Control (QC) program.
- 10. Monitor Corrosion Prevention and Control (CPAC) program.
- 11. Ensure program and equipment records are maintained.

#### RELATED EVENTS:

| 1141-ADMN-2072 | 1142-ADMN-2072 | 1161-ADMN-2041 |
|----------------|----------------|----------------|
| 1161-ADMN-2051 | 1161-ADMN-2071 | 1161-ADMN-2073 |
| 1169-ADMN-2072 | 1171-ADMN-2072 |                |

# **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO 4400.194 Marine Corps Class VII Stock Rotation Policy
- 3. MCO 4733.1\_ Marine Corps Test, Measurement, and Diagnostics Equipment (TMDE) Calibration and Maintenance Program (CAMP)
- 4. MCO 4790.18\_ Corrosion Prevention and Control (CPAC) Program
- 5. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 6. MCO P4400.82\_ Regulated/Controlled Item Management Manual
- 7. MCO P4790.2\_ MIMMS Field Procedures Manual
- 8. TI 4733-OD/1\_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
- 9. TM 4700-15/1\_ Ground Equipment Record Procedures
- 10. TM 750-245-4 Direct Support, General Support Quality Control Inspector's Inspection Criteria
- 11. Unit SOP Unit's Standing Operating Procedures

# MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: An Advanced Refrigeration and Air Conditioning Technician course is currently not available at a Formal School. Until one is established, this event is MOJT for initial training. Some programs listed above may not be required at all units.

1161-ADMN-2073: Inspect maintenance actions (quality control)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Quality Control NCO, Refrigeration and Air Conditioning Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With repaired equipment, equipment records and references.

STANDARD: So equipment repairs and documentation are certified complete.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review Service Request (SR).
- 3. Verify equipment's operational condition.
- 4. Reject faulty equipment.
- 5. Verify equipment closeout.
- 6. Verify completion of maintenance actions.

# PREREQUISITE EVENTS:

1161-ADMN-1006 1161-ADMN-1008

# RELATED EVENTS:

1141-ADMN-2073 1142-ADMN-2073 1161-ADMN-1009 1161-ADMN-1011 1171-ADMN-2073

# REFERENCES:

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. MCO P4790.2 MIMMS Field Procedures Manual
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures
- 6. TM 750-245-4 Direct Support, General Support Quality Control Inspector's Inspection Criteria

# SUPPORT REQUIREMENTS:

**EQUIPMENT:** Repaired equipment

MATERIAL: NAVMC 696D (Motor Vehicle and Engineer Equipment Record Folder)

OTHER SUPPORT REQUIREMENTS: Access to Global Combat Support System-Marine Corps (GCSS-MC)

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: An Advanced Refrigeration and Air Conditioning Technician course is currently not available at a Formal School. Until one is established, this event is MOJT for initial training.

1161-MANT-2191: Comply with a Modification Instruction (MI)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 24 months

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: With a Service Request (SR) on effected equipment, the effected equipment, a Modification Instruction (MI), parts, tools, forms, and references.

**STANDARD:** Per the MI and TM 4700-15/1H.

# PERFORMANCE STEPS:

- 1. Review MI.
- 2. Review Service Request (SR).
- 3. Inventory parts from layette.
- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE) (if required).
- 6. Apply modification.
- 7. Test modification.
- 8. Document modification.

PREREQUISITE EVENTS: 1161-ADMN-1006

### RELATED EVENTS:

1141-MANT-2191 1142-MANT-2191 1161-ADMN-1008 1161-ADMN-1010 1161-ADMN-1011 1171-MANT-2191

# REFERENCES:

- 1. Appropriate Technical Manuals
- 2. TM 4700-15/1 Ground Equipment Record Procedures

# **SUPPORT REQUIREMENTS:**

## **EQUIPMENT:**

- Personal Protective Equipment (PPE)
- Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]
- Refrigeration or air conditioning equipment being modified

### MATERIAL:

Modification Instruction (MI)

Parts (if required)

NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)

NAVMC 696D (Motor Vehicle and Engineer Equipment Record Folder)

<u>1161-XENG-2541</u>: Develop a field refrigeration/environmental control equipment support plan

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Refrigeration and Air Conditioning Technician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With a warning order requiring a base camp(s), area map(s), area reconnaissance report(s), any environmental impact report(s), camp layout(s), and references.

**STANDARD:** So requirements of warning order are supported; with refrigeration/environmental control equipment drawn on camp layout(s) and a Course of Action (COA) established; and input provided for the Operation Order.

# PERFORMANCE STEPS:

- Review warning order, map(s), reconnaissance report(s), camp layout(s), and references.
- Identify equipment/personnel requiring heating and air conditioning support.
- 3. Determine environmental control equipment requirements, selecting equipment sites.
- 4. Identify areas/activities requiring refrigeration support.
- 5. Determine field refrigeration system requirements, selecting equipment sites.
- 6. Determine environmental impacts.
- 7. Plot Environmental Control Unit (ECU) sites on camp layout(s).
- 8. Plot field refrigeration system sites on camp layout(s).
- 9. Identify potential impact of weather/climate on refrigeration/ECU operations.
- 10. Determine risks, conducting operational risk assessments.
- 11. Determine number and type of warning signs required.
- 12. Schedule Preventive Maintenance Checks and Services (PMCS).
- 13. Determine camouflage, concealment, and decoy requirements.
- 14. Estimate man-hour requirements, determining number of Refrigeration and Air Conditioning Technicians required to support the mission.
- 15. Estimate logistical support (truck, forklift, etc.) required.
- 16. Establish Bill of Materials (BOM) including security, camouflage, environmental, and safety items.
- 17. Generate work request(s) for any required construction.
- 18. Establish a Course of Action (COA).
- 19. Record requirements for input into the Operation Order.
- 20. Brief plan (if required).

# RELATED EVENTS:

1161-XENG-2641 1161-XENG-2642

# REFERENCES:

1. Appropriate Technical Manuals

- 2. ATTP 5-0.1 Commander and Staff Officer Guide
- MCO 3000.18\_ Marine Corps Force Deployment Planning and Execution (FDP&E)
   Manual
- 4. MCO 3500.27\_ Operational Risk Management (ORM)
- 5. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 6. MCRP 3-17.7F Project Management
- 7. MCRP 3-17.7N Base Camps
- 8. MCRP 3-17B Engineer Forms and Reports
- 9. MCRP 3-35.1D Cold Region Operations
- 10. MCRP 4-11.8A Marine Corps Field Feeding Program
- 11. MCRP 4-11B Environmental Considerations
- 12. MCRP 5-12A Operational Terms and Graphics
- 13. MCWP 3-17 Engineering Operations
- 14. MCWP 3-17.4 Engineer Reconnaissance
- 15. MCWP 3-17.7 General Engineering
- 16. MCWP 3-35.5 Jungle Operations
- 17. MCWP 3-35.6 Desert Operations
- 18. MCWP 3-41.1 Rear Area Operations
- 19. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 20. PL 101-549 Public Law No: 101-549 Clean Air Act Amendments of 1990
- 21. SL-3-11574A Components List for Large Field Refrigeration System
- 22. SL-3-11609A Components List for Small Field Refrigeration System
- 23. SL-3-4120 Components List for Family of Environmental Control Units
- 24. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 25. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 26. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

# **MATERIAL**:

Area topographical map(s)
Area reconnaissance report(s)
Environmental impact report(s) (if any)
Camp layout(s)

# MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: An Advanced Refrigeration and Air Conditioning Technician course is currently not available at a Formal School. Until one is established, this event is MOJT for initial training.

1161-XENG-2571: Design an interior HVAC system for a semi-permanent structure

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: HVAC is Heating, Ventilation and Air Conditioning.

BILLETS: Refrigeration and Air Conditioning Technician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With construction plans for a structure, local code requirements, and references.

 $\underline{\mathtt{STANDARD}}$ : So HVAC requirements of structure, based on local environment, are  $\underline{\mathtt{met}}$ .

### PERFORMANCE STEPS:

- 1. Review the construction plans, local code and references.
- 2. Determine total space of structure.
- 3. Determine BTU/tons of air to be conditioned/moved.
- 4. Size HVAC units required.
- 5. Plot the placement of HVAC units on construction plans.
- 6. Ensure the HVAC system conforms to the building's requirements.
- 7. Plot ducts and vents on construction plans.
- 8. Estimate man-hour requirements.
- 9. Determine risks, conducting operational risk assessments.
- 10. Establish a Bill of Materials (BOM), including safety items.
- 11. Establish a Course of Action (COA).

### RELATED EVENTS:

1161-XENG-2974 1161-XENG-2978

## REFERENCES:

- 1. Appropriate Technical Manuals
- 2. ATTP 5-0.1 Commander and Staff Officer Guide
- 3. FM 5-553 General Drafting
- 4. MCRP 3-17.7F Project Management
- 5. MCRP 3-17.7M Construction Estimating
- 6. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 7. MRAC Modern Refrigeration & Air Conditioning Text Book
- 8. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 9. TM 5-704 Construction Print Reading in the Field

# SUPPORT REQUIREMENTS:

MATERIAL: Construction plans

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: An Advanced Refrigeration and Air Conditioning Technician course is currently not available at a Formal School. Until one is established, this event is MOJT for initial training.

1161-XENG-2618: Set up an ITEG

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** ITEG is Integrated Trailer/ECU/Generator.

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BILLETS: Refrigeration and Air Conditioning Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With equipment, personnel, material, and references.

**STANDARD:** So unit's mission is supported and ITEG is set up in accordance with TM 11490-OR.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Assess operational risk.
- 3. Don Personal Protective Equipment (PPE).
- 4. Prepare site, making provisions for refueling.
- 5. Unpack ITEG.
- 6. Place applicable environmental safeguards in place.
- 7. Set up ITEG and accessories.
- 8. Post safety/warning signs.
- 9. Ensure equipment is grounded.
- 10. Camouflage site.
- 11. Provide for security.

PREREQUISITE EVENTS: 1161-ADMN-1001

## RELATED EVENTS:

1141-XENG-2718 1161-MANT-1218 1161-XENG-1614

### REFERENCES:

- 1. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 2. SL-3-11490A Components List for Integrated Trailer, Environmental Control Unit, Generator (ITEG)
- 3. TM 11490A-OR Operation Manual with Repair Parts List, Integrated Trailer-ECU-Generator (ITEG)

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)

Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]

Earthmoving equipment (if required to prepare site)

Integrated Trailer, Environmental Control Unit, Generator (ITEG) [B0018]

# MATERIAL:

Spill containment materials

Warning signs

UNITS/PERSONNEL: MOS 1345 (Engineer Equipment Operator) to prepare site

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: All operators of the Integrated Trailer, Environmental Control Unit, Generator (ITEG) [B0018] will need to be

licensed through an authorized licensing program in the Total Force.

**SPECIAL PERSONNEL CERTS:** Operators must be licensed to operate an Integrated Trailer, Environmental Control Unit, Generator (ITEG) [B0018].

1161-XENG-2641: Direct environmental control equipment set up/installation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Refrigeration and Air Conditioning Technician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, refrigeration and environmental control support plan and established Course of Action (COA), camp layout, equipment, personnel, material, and references.

**STANDARD:** So unit's mission is safely supported in accordance with the Operation Order.

### PERFORMANCE STEPS:

- 1. Review Operation Order, refrigeration and environmental control support plan, and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Review equipment technical manuals.
- 5. Brief installation crew.
- 6. Supervise environmental control unit set up/installation.
- 7. Inspect set up/installed units.
- 8. Inspect equipment grounding.
- 9. Correct discrepancies.

**PREREQUISITE EVENTS:** 1161-XENG-2541

# RELATED EVENTS:

1161-XENG-1611 1161-XENG-1614 1161-XENG-1634

## **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 3. MCRP 3-17.7F Project Management
- 4. MCRP 3-17.7N Base Camps
- 5. MCRP 4-11B Environmental Considerations
- 6. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)
Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]

Forklift (with capacity to lift ECU(s))
Earthmoving equipment (if required to prepare site(s))

Environmental Control Units (ECU) (Sizes and quantities as designated by the support plan)

#### MATERIAL:

Refrigeration and environmental control support plan with established Course of Action (COA) Warning signs

## UNITS/PERSONNEL:

MOS 1345 (Engineer Equipment Operator) to prepare site(s) and move Equipment

MOS 1141 (Electrician) to establish electrical power support

MOS 1161 (Refrigeration and Air Conditioning Technician) to set up/install equipment

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for equipment set up/installation.

1161-XENG-2642: Direct refrigeration equipment set up

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Refrigeration and Air Conditioning Technician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, refrigeration and environmental control support plan and established Course of Action (COA), camp layout, equipment, personnel, material, and references.

**STANDARD:** So unit's mission is safely supported in accordance with the Operation Order.

- 1. Review Operation Order, refrigeration and environmental control support plan, and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Review equipment technical manuals.
- 5. Brief installation crew.
- 6. Supervise set up of refrigeration system(s).
- 7. Inspect set up system(s).
- 8. Inspect equipment grounding.
- 9. Ensure inspection of equipment by preventive medicine personnel.
- 10. Correct discrepancies.

PREREQUISITE EVENTS: 1161-XENG-2541

**RELATED EVENTS:** 1161-XENG-1635

# **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 3. MCRP 3-17.7F Project Management
- 4. MCRP 3-17.7N Base Camps
- 5. MCRP 4-11.8A Marine Corps Field Feeding Program
- 6. MCRP 4-11B Environmental Considerations
- 7. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)

Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]

Forklift (with capacity to lift refrigeration system(s))

Earthmoving equipment (if required to prepare site(s))

Refrigeration systems (Sizes and quantities as designated by the support plan)

#### MATERIAL:

Refrigeration and environmental control support plan with established Course of Action (COA)  $\,$ 

Warning signs

# UNITS/PERSONNEL:

 ${
m MOS}$  1345 (Engineer Equipment Operator) to prepare site(s) and move Equipment

MOS 1141 (Electrician) to establish electrical power support

 ${
m MOS}$  1161 (Refrigeration and Air Conditioning Technician) to set up equipment

Preventive Medicine Technician

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for equipment set up.

1161-XENG-2741: Monitor field refrigeration/environmental control equipment operation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Refrigeration and Air Conditioning Technician, Section Head

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, camp layout, refrigeration/environmental control equipment, personnel, and references.

<u>STANDARD</u>: So unit's mission is safely supported in accordance with the Operation Order.

# PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Inspect installed refrigeration/air conditioning equipment.
- 3. Review safety concerns.
- 4. Review environmental concerns.
- 5. Establish maintenance schedule.
- 6. Brief personnel.
- 7. Supervise operation of air conditioning equipment.
- 8. Supervise operation of refrigeration units.
- 9. Manage refrigeration/air conditioning equipment operator maintenance.
- 10. Ensure records/reports are updated/completed.

### PREREQUISITE EVENTS:

1161-XENG-2641 1161-XENG-2642

# RELATED EVENTS:

1161-XENG-2541 1169-XENG-2741

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. SL-3-11502A Components List for Cooling and Refrigeration Expeditionary Kit (CREK)
- 3. SL-3-11574A Components List for Large Field Refrigeration System
- 4. SL-3-11609A Components List for Small Field Refrigeration System
- 5. SL-3-4120 Components List for Family of Environmental Control Units
- 6. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures
- 8. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

UNITS/PERSONNEL: MOS 1161 (Refrigeration and Air Conditioning Technicians)
to maintain equipment

1161-XENG-2974: Inspect interior HVAC system of a permanent structure

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: HVAC is Heating, Ventilation and Air Conditioning.

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** At structure containing an installed Heating, Ventilation and Air Conditioning (HVAC) system, with tools, and references.

**STANDARD:** So ability of HVAC system to support the structure and mission are determined, safety concerns are addressed and required repairs/upgrades identified.

# PERFORMANCE STEPS:

- 1. Review references.
- 2. Access operational risk.
- 3. Don Personal Protective Equipment (PPE).
- 4. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- Find and determine capabilities/serviceability of ducts and vents, recording findings.
- 6. Find and determine capabilities/serviceability of HVAC system electrical wiring, recording findings.
- 7. Determine size of structure and BTU/Tons required to condition the air, recording findings.
- 8. Identify any part of the HVAC system that fails to comply with structural requirements.
- 9. Analyze findings.
- List all discrepancies identified, specifying any corrective action(s) required.

#### PREREQUISITE EVENTS:

1161-ADMN-1001 1161-ADMN-1002

#### RELATED EVENTS:

1161-XENG-2571 1161-XENG-2978

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MRAC Modern Refrigeration & Air Conditioning Text Book
- 3. PL 101-549 Public Law No: 101-549 Clean Air Act Amendments of 1990
- 4. TM 11502A-OI User's Manual for Cooling and Refrigeration Expeditionary Kit (CREK)
- 5. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]

### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Must have required EPA certifications. An Advanced Refrigeration and Air Conditioner Technician course is currently not available at a Formal School. Until one is established, this event is MOJT for initial training.

1161-XENG-2978: Install commercial HVAC system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 24 months

DESCRIPTION: HVAC is Heating, Ventilation and Air Conditioning.

BILLETS: Refrigeration and Air Conditioning Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** At a structure, with construction blueprints, a Bill of Materials (BOM), personnel, tools, and references.

**STANDARD:** So structure will have air conditioning per construction blueprints and equipment manuals.

#### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Review blueprints.
- 3. Review Bill of Materials (BOM).
- 4. Inventory BOM.
- 5. Review applicable section(s) of references.
- 6. Assess risks (ORM).
- 7. Don Personal Protective Equipment (PPE).
- 8. Run copper tubing.
- 9. Install external unit.
- 10. Install internal unit.
- 11. Run electrical wiring.
- 12. Charge system with refrigerant.
- 13. Test split unit air conditioning system.

#### PREREQUISITE EVENTS:

1161-ADMN-1001 1161-ADMN-1017 1161-ADMN-1018

#### RELATED EVENTS:

1161-XENG-2571 1161-XENG-2641 1161-XENG-2974

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MRAC Modern Refrigeration & Air Conditioning Text Book
- 3. PL 101-549 Public Law No: 101-549 Clean Air Act Amendments of 1990
- 4. TM 11502A-OI User's Manual for Cooling and Refrigeration Expeditionary Kit (CREK)
- 5. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

### SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]

MATERIAL: Bill of Materials (BOM)

# UNITS/PERSONNEL:

MOS 1345 (Engineer Equipment Operator) to lift units MOS 1141 (Electrician) to establish electrical power

### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Must have required EPA certification. An Advanced Refrigeration and Air Conditioner Technician course is currently not available at a Formal School. Until one is established, this event is MOJT for initial training.

# ENG & UTIL T&R MANUAL

# CHAPTER 11

### MOS 1169 INDIVIDUAL EVENTS

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### ENG & UTIL T&R MANUAL

#### CHAPTER 11

#### MOS 1169 INDIVIDUAL EVENTS

- 11000. PURPOSE. This chapter details the individual events that pertain to the Utilities Chief. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful.
- 11001. EVENT CODING. Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX-XXXX. This chapter utilizes the following methodology
- a. Field one. This field represents the community. This chapter contains the following community codes:
  - Code 1169 Description Utilities Chief
- b. Field two. This field represents the functional/duty area. This chapter contains the following functional/duty areas:
  - Code Description
    ADMN Administration
    XENG General Engineering
  - c. Field three.

Code

- (1) The first digit of this field provides the level at which the event is accomplished. The following event levels are used:

Description

- (2) As the Task Analyst/Advocate has deemed appropriate the second digit of this field represents a sub-function to that duty area identified in field two. The following sub-functions are used in this chapter:
  - X0XX Administrative
    X5XX Planning
    X6XX Equipment set up
    X7XX Equipment operation
    X8XX Equipment recovery
    X9XX Electrician/Plumber (trades
  - X9XX Electrician/Plumber (tradesman) duty based on requirements in the National Electrical Code (NEC) or Uniform Plumbing Code (UPC), etc.

(3) The last two digits of this field are used to identify and categorize like events or equipment across all MOSs of the OccFld (see Chapters 7 through 12), or are just numerical sequencing of events. Following are **some** examples of the categories used:

# Code Description

- X002 Core and Core Plus Skills related to controlling hazardous energy. See: 1120-ADMN-2002, 1141-ADMN-1002, 1142-ADMN-1002 1161-ADMN-1002, 1169-ADMN-2002 and 1171-ADMN-1002
- X012 Core and Core Plus Skills related to NAVMC 10772 initiation, validation and submission. See: 1120-ADMN-2012, 1141-ADMN-1012, 1142-ADMN-1012, 1161-ADMN-1012, 1169-ADMN-2012 and 1171-ADMN-1012.
- 2023 Core Plus advanced level MOS training program functions. See: 1120-ADMN-2023, 1141-ADMN-2023, 1142-ADMN-2023, 1161-ADMN-2023, 1169-ADMN-2023 and 1171-ADMN-2023.
- 206X Core Plus advanced level supply support functions.
  See: 1120-ADMN-2061, 1120-ADMN-2062, 1120-ADMN-2063,
  1120-ADMN-2064, 1120-ADMN-2065, 1141-ADMN-2061, 1141-ADMN-2062
  1142-ADMN-2061, 1142-ADMN-2062, 1161-ADMN-2061, 1161-ADMN-2062
  1169-ADMN-2061, 1169-ADMN-2062, 1169-ADMN-2063, 1169-ADMN-2064
  1169-ADMN-2065, 1171-ADMN-2061 and 1171-ADMN-2062.
- 2X58 Core Plus Skills related to field sanitation. See: 1120-XENG-2558, 1120-XENG-2658, 1120-XENG-2758, 1120-XENG-2858 1169-XENG-2558, 1169-XENG-2658, 1169-XENG-2758, 1169-XENG-2858 1171-XENG-2558, 1171-XENG-2658 and 1171-XENG-2858

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#### 11003. 2000-LEVEL EVENTS

1169-ADMN-2001: Supervise Operational Risk Management (ORM)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With a task/mission, a Risk Management Worksheet, and references.

**STANDARD:** So task/mission effectiveness is increased while loss of personnel and materiel is minimized through the implementation of risk management controls.

#### PERFORMANCE STEPS:

- 1. Identify task/mission requirements.
- 2. Review references.
- 3. Identify hazards, recording them on Risk Management Worksheet.
- 4. Assess severity and probability of hazards to determine risk levels.
- 5. Develop risk control measures.
- 6. Make risk decisions.
- 7. Supervise implementation of controls.
- 8. Periodically review task/mission, hazards and controls.

#### RELATED EVENTS:

1120-ADMN-2001 1141-ADMN-1001 1142-ADMN-1001 1161-ADMN-1001 1171-ADMN-1001

- 1. Appropriate Technical Manuals
- 2. DoDI 6055.1 DoD Safety and Occupational Health (SOH) Program
- 3. FM 5-19 Composite Risk Management
- 4. MCO 3500.27\_ Operational Risk Management (ORM)
- 5. MCO 5100.29\_ Marine Corps Safety Program
- 6. OPNAVINST 3500.39\_ Operational Risk Management

### SUPPORT REQUIREMENTS:

MATERIAL: Risk Management Worksheet.

### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Risk assessment is taught at all basic MOS producing courses in the Occupational Field.

1169-ADMN-2002: Administer a Lockout/Tagout program

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** In a shop setting or field environment, with personnel, equipment, equipment manuals, Lockout/Tagout devices, forms, and references.

**STANDARD:** So prior to personnel performing maintenance, service, repair, or modification to equipment, the equipment shall be locked out or tagged out to protect against accidental or inadvertent start-up, or operation that may cause injury to personnel.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Evaluate Lockout/Tagout Program using NAVMC 11402 (annual requirement).
- 3. Ensure availability of an ample supply of locks and tags.
- 4. Review/approve Lockout/Tagout Checklists, NAVMC 11403.
- 5. Maintain Lockout/Tagout Log, NAVMC 11404.
- 6. Control the issue of Lockout/Tagout devices to authorized workers.
- 7. Ensure the timely return of Lockout/Tagout devices.

### RELATED EVENTS:

1141-ADMN-1002 1142-ADMN-1002 1161-ADMN-1002 1171-ADMN-1002

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. 29 CFR 1910.147 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 147 Control of Hazardous Energy (Lockout/Tagout)
- 3. NAVMC DIR 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Program Manual
- 4. UNIT SOP Unit's Standing Operating Procedures

### SUPPORT REQUIREMENTS:

# MATERIAL:

Lockout/Tagout devices

NAVMC 11402 (Lockout/Tagout Program Evaluation)

NAVMC 11403 (Lockout/Tagout Checklist)

NAVMC 11404 (Lockout/Tagout Log)

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: NAVMC Dir 5100.8, Chapter 12, provides detailed instructions for this event. Control of hazardous energy (Lockout/Tagout) is taught at all basic MOS producing courses in the Occupational Field.

1169-ADMN-2003: Recover an electric shock victim

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a situation and without references.

STANDARD: So danger to personnel is eliminated and victim is cared for.

#### PERFORMANCE STEPS:

- 1. Evaluate situation.
- 2. Send for help.
- 3. Provide for personal protection.
- 4. Isolate victim from electrical source.
- 5. Evaluate victim.
- 6. Start artificial resuscitation (if necessary).
- 7. Remain with victim until medical help arrives.
- 8. Report incident.

#### RELATED EVENTS:

1120-ADMN-2003 1141-ADMN-1003 1142-ADMN-1003 1161-ADMN-1003

### **REFERENCES:**

- 1. MCRP 3-02G First Aid
- 2. MCRP 3-17.7K Theater of Operations Electrical Systems
- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 4. TM 2000-15/4 Power System Reference Manual
- 5. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

### SUPPORT REQUIREMENTS:

#### MATERIAL:

Ropes

Brooms, mops or tree branches

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Recovery of an electric shock victim is taught at all basic MOS producing courses in the Occupational Field.

1169-ADMN-2004: Respond to a hazardous materials spill

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a situation and without references.

STANDARD: So the spill is contained, reported, and cleaned up.

#### PERFORMANCE STEPS:

- 1. Evacuate immediate area (if necessary).
- 2. Provide for personal protection.
- 3. Contain spill.
- 4. Report spill.
- 5. Remove uncontaminated material.
- 6. Dispose of hazardous material.

#### RELATED EVENTS:

1120-ADMN-2004 1141-ADMN-1004 1142-ADMN-1004 1161-ADMN-1004

### **REFERENCES:**

- 1. INSTALLATION SOP Installation's Standing Operating Procedures
- 2. MCO 4450.12\_ Storage and Handling of Hazardous Materials
- 3. MCO P5090.2\_ Environmental Compliance and Protection Manual
- 4. MCRP 4-11B Environmental Considerations

### SUPPORT REQUIREMENTS:

MATERIAL: Spill containment kit

#### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: MCO 4450.12A, Chapter 7 and MCRP 4-11B, Appendix J, Tab A provide detailed information for this event. Responding to a hazardous materials spill is taught at all basic MOS producing courses in the Occupational Field.

1169-ADMN-2005: Administer first aid for chemical ingestion/contact

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

NAVMC 3500.12B 22 Jan 2014

BILLETS: Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a situation and Material Safety Data Sheets (MSDS).

**STANDARD:** So effect of the chemical is mitigated and victim is cared for per the MSDS and MCRP 3-02G.

# PERFORMANCE STEPS:

- 1. Protect yourself and other personnel.
- 2. Send for help.
- 3. Review Material Safety Data Sheet (MSDS).
- 4. Provide for personal protection (if required).
- 5. Give first aid.
- 6. Remain with victim until medical help arrives.
- 7. Report the incident.

### RELATED EVENTS:

1120-ADMN-2005 1141-ADMN-1005 1142-ADMN-1005 1161-ADMN-1005

#### **REFERENCES:**

1. MCRP 3-02G First Aid

#### SUPPORT REQUIREMENTS:

MATERIAL: Material Safety Data Sheet (MSDS) file

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: MCRP 3-02G, Chapter 7 provides detailed information for this event. First aid for chemical ingestion/contact is taught at all basic MOS producing courses in the Occupational Field.

<u>1169-ADMN-2006</u>: Supervise publications control

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Utilities Chief

**GRADES:** GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With unit's Publications Listing (PL), access to publications websites and management systems, and references.

**STANDARD:** So required publications are available to maintain section's operational capabilities and readiness.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Identify publication requirements based on mission and T/O&E.
- 3. Audit section's PL.
- 4. Validate on-hand publications inventory.
- 5. Inspect section's library for missing or outdated publications.
- 6. Verify published changes are made to publications.
- 7. Evaluate control procedures.
- 8. Evaluate NAVMC 10772 procedures.
- 9. Correct deficiencies.

#### RELATED EVENTS:

1120-ADMN-2006 1141-ADMN-1006 1142-ADMN-1006 1161-ADMN-1006 1169-ADMN-2012 1171-ADMN-1006

#### **REFERENCES:**

- 1. MCO 4400.120\_ Joint Regulation Governing the Use and Application of Uniform Source Maintenance and Recoverability Codes
- 2. MCO 5215.1\_ Marine Corps Directives Management Program
- 3. MCO 5600.20\_ Marine Corps Doctrinal Publications System
- 4. MCO 5600.31\_ Marine Corps Printing and Publishing Regulations
- 5. MCO P4790.2\_ MIMMS Field Procedures Manual
- 6. MCO P5215.17 The Marine Corps Technical Publications System
- 7. SECNAV M-5210.2\_ Department of the Navy Standard Subject Identification Code (SSIC) Manual
- 8. SL-1-2/SL-1-3 Index of Publications Stocked by the USMC
- 9. UNIT SOP Unit's Standing Operating Procedures
- 10. Unit T/O&E Unit's Table of Organization and Equipment

# **SUPPORT REQUIREMENTS:**

MATERIAL: Unit's Publication Listing (PL).

OTHER SUPPORT REQUIREMENTS: Internet access, with a CAC card, is required in order to complete this event.

1169-ADMN-2007: Supervise equipment SL-3 Components List/Basic Issue Items (BII) inventories

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With personnel, equipment, and references.

 $\underline{\text{STANDARD}}$ : So serviceability of equipment and accountability of all components is maintained per the SL-3 Components/Basic Issue Items (BII) List and TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review item inventory requirements (SL-3 Components List or TM listing Basic Issue Items [BII]).
- 3. Schedule inventories.
- 4. Monitor inventories.
- 5. Ensure inventories are documented (sign inventory sheets).
- 6. Ensure deficiencies are requisitioned/acquired.

### RELATED EVENTS:

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 3. SI 10510-OR/1 Tool Warranty/Replacement Instructions for Using the USMC ServMart
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. UNIT SOP Unit's Standing Operating Procedures

### SUPPORT REQUIREMENTS:

MATERIAL: SL-3/BII inventory sheets.

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: TM 4700-15/1H, Chapter 2, Section 6 provides detailed information for this event. Conducting SL-3/BII inventories is taught at all basic MOS producing courses in the Occupational Field.

**1169-ADMN-2012:** Validate a NAVMC 10772

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: NAVMC 10772 is Recommended Change to Technical Publications/Logistics-Maintenance Data Coding.

BILLETS: Utilities Chief

**GRADES:** GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With a completed/draft NAVMC 10772 and the references.

**STANDARD:** So corrections/improvements to publications are affected per TM 4700-15/1H and MCO P5215.17C.

- 1. Review references.
- 2. Audit NAVMC 10772.
- 3. Review affected technical manual to verify recommended change will correct

the error/deficiency.

- 4. If applicable, approve Part II with signature and date.
- 5. Forward NAVMC 10772 per Unit's SOP (on line if applicable).

### RELATED EVENTS:

1141-ADMN-1012 1142-ADMN-1012 1161-ADMN-1012 1169-ADMN-2006 1171-ADMN-1012

#### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCO P5215.17\_ The Marine Corps Technical Publications System
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures
- 4. UNIT SOP Unit's Standing Operating Procedures

### SUPPORT REQUIREMENTS:

<u>MATERIAL</u>: NAVMC 10772 (Recommended Change to Technical Publications/Logistics-Maintenance Data Coding)

OTHER SUPPORT REQUIREMENTS: Internet access, with a CAC card, may be required in order to complete this event per the Unit SOP. The website: https://portal.logcom.usmc.mil/sites/pubs/Site%20Pages/NAVMC10772RFC.aspx.

#### **MISCELLANEOUS:**

<u>ADMINISTRATIVE INSTRUCTIONS</u>: TM 4700-15/1H, Chapter 2, Section 23 provides detailed information for this event.

**1169-ADMN-2021:** Enforce safety programs

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Section SNCOIC, Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With resources and references.

**STANDARD:** So applicable safety measures and procedures are in place and adhered to.

- 1. Review references.
- 2. Identify equipment safety requirements.
- 3. Identify personnel safety requirements.
- 4. Conduct Operational Risk Assessments.
- 5. Implement safety procedures.
- 6. Conduct safety awareness training.
- 7. Evaluate safety programs.
- 8. Enforce safety regulations.
- 9. Provide input for/submit required reports.

PREREQUISITE EVENTS:

1169-ADMN-2001 1169-ADMN-2002

RELATED EVENTS:

1141-ADMN-2021 1142-ADMN-2021 1161-ADMN-2021

1171-ADMN-2021

### **REFERENCES:**

1. DoDI 6055.1 DoD Safety and Occupational Health (SOH) Program

- 2. MCO 3500.27\_ Operational Risk Management (ORM)
- 3. MCO 5100.19\_ Marine Corps Traffic Safety Program (Drivesafe)
- 4. MCO 5100.29\_ Marine Corps Safety Program
- 5. MCO 5100.30\_ Marine Corps Recreation and Off-Duty Safety (RODS) Program
- 6. MCO 5100.34\_ Deadline Safety of Use Message Instructions to Suspend Operations of Marine Corps Ground Equipment and Weapons Systems and Safety of Use Alerts
- 7. MCO 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Policy Order
- 8. MCO 5104.2\_ Marine Corps Radiofrequency Electromagnetic Field Personnel Protection Program
- 9. MCO 5104.3\_ Marine Corps Radiation Safety Program
- 10. MCO P5102.1\_ Navy and Marine Corps Mishap and Safety Investigation Reporting and Record Keeping Manual
- 11. NAVMC DIR 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Program Manual
- 12. OPNAVINST 5100.23\_ Navy Safety and Occupational Health (SOH) Program Manual
- 13. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 14. UNIT SOP Unit's Standing Operating Procedures

1169-ADMN-2022: Enforce environmental regulations

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Section SNCOIC, Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With references.

STANDARD: So environmental policies and procedures are adhered to.

- 1. Review references.
- 2. Verify section's compliance with applicable environmental regulations and restrictions.
- 3. Supervise platoon/section hazardous waste/material disposal program.
- 4. Monitor hazardous materials storage areas.
- 5. Inventory Material Safety Data Sheets (MSDS).
- 6. Report any situations that require reporting.
- 7. Conduct environmental regulations compliance planning for unit field

operations.

8. Provide input for unit SOPs and environmental impact statements.

**PREREQUISITE EVENTS:** 1169-ADMN-2004

#### RELATED EVENTS:

1141-ADMN-2022 1142-ADMN-2022 1161-ADMN-2022

1171-ADMN-2022

#### **REFERENCES:**

1. INSTALLATION SOP Installation's Standing Operating Procedures

- 2. MCO 4450.12\_ Storage and Handling of Hazardous Materials
- 3. MCO P5090.2 Environmental Compliance and Protection Manual
- 4. MCRP 4-11B Environmental Considerations
- 5. OPNAVINST 5090.1\_ Environmental Readiness Program Manual

1169-ADMN-2023: Direct MOS training program

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: MOS is Military Occupational Specialty.

BILLETS: Section SNCOIC, Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With training resources, records, and references.

STANDARD: So MOS proficiency is maintained.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Identify individual training requirements (review T&R Manual and MOS Roadmaps).
- 3. Identify unit training requirements (review unit METL/Commander's intent).
- 4. Develop training program policies and procedures.
- 5. Verify on the job and sustainment training requirements by grade and MOS.
- 6. Plan MOS training program (considering apprenticeship programs).
- 7. Review lesson plans.
- 8. Review training methods/aids/materials.
- 9. Schedule MOS sustainment training.
- 10. Develop Letter of Instruction (LOI).
- 11. Ensure training is conducted.
- 12. Maintain lesson plans.
- 13. Document training, maintaining individual training records.
- 14. Evaluate training.
- 15. Encourage use of self-directed study and assist in providing resources.

### RELATED EVENTS:

1120-ADMN-2023 1141-ADMN-2023 1142-ADMN-2023

1161-ADMN-2023 1171-ADMN-2023

#### **REFERENCES:**

- 1. DoDD 1322.18 Military Training
- 2. MCO 1553.1\_ The Marine Corps Training and Education System
- 3. MCO 1553.2 Management of Marine Corps Formal Schools and Training Detachments
- 4. MCO 1553.3\_ Unit Training Management (UTM) Program
- 5. MCO 1553.4\_ Professional Military Education (PME)
- 6. MCO 1553.6\_ Development, Management, and Acquisition of Interactive Courseware (ICW) for Marine Corps Instruction
- 7. MCO 1560.25\_ Marine Corps Lifelong Learning Program
- 8. MCO 3500.26\_ Universal Naval Task List (UNTL) Version 3.0
- 9. MCO P3500.72\_ Marine Corps Ground Training and Readiness (T&R) Program
- 10. MCRP 3-0A Unit Training Management Guide
- 11. MCRP 3-0B How to Conduct Training
- 12. NAVMC 1553.1\_ Systems Approach to Training (SAT) Users Guide
- $13.\ \mathrm{NAVMC}\ 3500.12\_\ \mathrm{Marine}\ \mathrm{Corps}\ \mathrm{Engineer}\ \mathrm{and}\ \mathrm{Utilities}\ \mathrm{Training}\ \mathrm{and}\ \mathrm{Readiness}\ \mathrm{Manual}$
- 14. OPNAVINST 1560.10\_ Administration of the United Services Military Apprenticeship Program (USMAP)
- 15. UNIT SOP Unit's Standing Operating Procedures

1169-ADMN-2031: Brief utilities safety to end users

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Section SNCOIC, Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With utilities support (electrical, air conditioning, refrigeration, water, hygiene and/or sanitation) plan(s), sample warning signs, and references.

**STANDARD:** So "Off Limit" areas, meaning of warning signs, prohibited equipment and reasons, prohibited practices, emergency procedures, and unsafe conditions are identified and addressed.

### PERFORMANCE STEPS:

- 1. Review support plans and references.
- 2. Identify prohibited equipment.
- 3. Identify prohibited practices.
- 4. Identify unsafe conditions.
- 5. Identify "Off Limit" areas.
- 6. Identify emergency procedures.
- 7. Assemble briefing notes and materials.
- 8. Deliver brief.
- 9. Supervise utilities safety compliance.

**PREREQUISITE EVENTS:** 1169-ADMN-2001

### RELATED EVENTS:

1120-ADMN-2031 1169-ADMN-2003 1169-ADMN-2002 1141-ADMN-2031

1169-ADMN-2021

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. 29 CFR 1910.269 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 269 - Electrical Power Generation, Transmission, and Distribution
- 3. 29 CFR 1910.301-399 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Subpart S, (Standard Numbers 301-399) - Electrical
- 4. ATTP 5-0.1 Commander and Staff Officer Guide
- 5. DoDI 6055.1 DoD Safety and Occupational Health (SOH) Program
- 6. FM 10-52 Water Supply in Theaters of Operation
- 7. FM 10-52-1 Water Supply Point Equipment and Operations
- 8. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 9. MCO 3500.27\_ Operational Risk Management (ORM)
- 10. MCO 5100.29\_ Marine Corps Safety Program
- 11. MCRP 3-17.7K Theater of Operations Electrical Systems
- 12. MCRP 4-11.1D Field Hygiene and Sanitation
- 13. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 14. NAVMC DIR 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Program Manual
- 15. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 16. NEC (NFPA 70) National Electrical Code by National Fire Protection
- 17. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 18. TB MED 593 Guidelines for Field Waste Management

### SUPPORT REQUIREMENTS:

MATERIAL: Sample warning signs.

1169-ADMN-2041: Validate a PQDR

SUSTAINMENT INTERVAL: 12 months EVALUATION-CODED: NO

**DESCRIPTION:** PODR is Product Quality Deficiency Report (SF 368).

BILLETS: Section SNCOIC, Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With a completed Product Quality Deficiency Report (PQDR), access to the defective item, and references.

**STANDARD:** So deficiency is reported.

- 1. Review references.
- 2. Ensure deficiency requires a PQDR.
- 3. Determine if deficiency is Category I or Category II.
- 4. Verify exhibit is controlled (if required).
- 5. Audit DD Forms 1575 and 2332 (if required).
- 6. Audit PQDR (SF 368).
- 7. Ensure PQDR is submitted to the Marine Corps PQDR Screening Point.

### RELATED EVENTS:

1141-ADMN-2041 1142-ADMN-2041 1161-ADMN-2041 1171-ADMN-2041

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO 4400.120\_ Joint Regulation Governing the Use and Application of Uniform Source Maintenance and Recoverability Codes
- 3. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
- 4. MCO 4855.10\_ Product Quality Deficiency Report (PQDR)
- 5. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 6. MCO P4400.82\_ Regulated/Controlled Item Management Manual
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures
- 8. UNIT SOP Unit's Standing Operating Procedures

#### SUPPORT REQUIREMENTS:

#### MATERIAL:

DD Form 1575 (Suspended Tag - Materiel)

DD Form 2332 (Product Quality Deficiency Report Exhibit)

SF 368 (Product Quality Deficiency Report [PQDR])

#### **MISCELLANEOUS:**

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Additional information for this event can be found at http://www.logcom.usmc.mil/pgdr.

1169-ADMN-2043: Initiate an UNS

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 24 months

DESCRIPTION: An UNS is a Universal Need Statement.

BILLETS: Utilities Chief

**GRADES:** GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With internet access and Common Access Card (CAC), or a Universal Need Statement (NAVMC 11475), and references.

**STANDARD:** So a capabilities shortfall and proposed solution(s) are documented for decision/action at the flag (General) officer level per MCO 3900.17\_.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Validate requirement.
- 3. Obtain input/justification/recommendations from other units.
- 4. Research recommended solutions.
- 5. Fill in "Part 1a of 5 Originator's Request" of the NAVMC 11475 (UNS).
- 6. Route UNS through chain of command.

**RELATED EVENTS:** 1120-ADMN-2043

#### **REFERENCES:**

- 1. CJCSI 3470.01 Rapid Validation and Resourcing of Joint Urgent Operational Needs (JUONS) in the Year of Execution
- 2. MCO 3900.15\_ Marine Corps Expeditionary Force Development System (EFDS)
- 3. MCO 3900.17\_ The Marine Corps Urgent Needs Process (UNP) and the Urgent Universal Need Statement (Urgent UNS)

### SUPPORT REQUIREMENTS:

MATERIAL: NAVMC 11475 (Universal Need Statement)

OTHER SUPPORT REQUIREMENTS: Internet access, with a CAC card, will be required in order to complete this event. The NAVMC 11475 may be downloaded from https://www.mccdc.usmc.mil/OpsDiv/CAB/UNS.htm. Detailed instructions for filling in and processing the form are also available at this website.

<u>1169-ADMN-2051</u>: Supervise preventive maintenance

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Section SNCOIC, Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment records, maintenance management reports, forms, and references.

**STANDARD:** So serviceable equipment will be available to support unit's mission.

- 1. Review references.
- 2. Determine equipment Preventive Maintenance Checks and Services (PMCS) requirements.
- 3. Audit PMCS roster (NAVMC 10561).
- 4. Audit maintenance management reports.
- 5. Audit equipment records.
- 6. Determine maintenance priorities.
- 7. Validate support and test equipment assets and requirements.
- 8. Assign tasks, briefing personnel on PMCS requirements.

- 9. Ensure PMCS schedule is followed.
- 10. Ensure PMCS actions are documented.

#### **RELATED EVENTS:**

| 1120-ADMN-2051 | 1141-ADMN-2051 | 1142-ADMN-2051 |
|----------------|----------------|----------------|
| 1120-ADMN-2031 | 1141-ADMN-2031 | II4Z-ADMM-ZUJI |
| 1161-ADMN-2051 | 1169-ADMN-2052 | 1169-ADMN-2065 |
| 1169-ADMN-2071 | 1169-ADMN-2072 | 1169-ADMN-2073 |
| 1171-ADMN-2051 |                |                |

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO 4733.1\_ Marine Corps Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
- 3. MCO P4790.2\_ MIMMS Field Procedures Manual
- 4. MCWP 4-11.4 Maintenance Operations
- 5. TB 11-6115-741-24 Field and Sustainment Maintenance for Tactical Generator Desert Operations Special Test, Inspection, and Repair Requirements
- 6. TI 4733-OD/1\_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures
- 8. UNIT SOP Unit's Standing Operating Procedures

#### SUPPORT REQUIREMENTS:

#### MATERIAL:

NAVMC 10561 (Preventive Maintenance Checks and Services (PMCS) Roster) Equipment records

Maintenance management reports

1169-ADMN-2052: Supervise corrective maintenance

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Section SNCOIC, Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment records, maintenance management reports, and references.

**STANDARD:** So equipment is repaired in a timely manner, enhancing the unit's readiness.

- 1. Review references.
- 2. Audit Maintenance Process Report (MPR) and other maintenance management reports.
- 3. Identify support and test equipment assets and requirements.
- 4. Determine maintenance priorities.
- 5. Assign maintenance tasks.
- 6. Ensure repairs are made.

7. Ensure repair actions are documented.

### RELATED EVENTS:

1120-ADMN-2052 1169-ADMN-2051 1169-ADMN-2065 1169-ADMN-2071 1169-ADMN-2072 1169-ADMN-2073

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO P4790.2 MIMMS Field Procedures Manual
- 3. MCWP 4-11.4 Maintenance Operations
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. UNIT SOP Unit's Standing Operating Procedures

### SUPPORT REQUIREMENTS:

### MATERIAL:

Equipment records

Maintenance management reports

1169-ADMN-2061: Supervise section's supply support

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Section SNCOIC, Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With maintenance, supply and fiscal reports, and references.

STANDARD: So section readiness in maintained.

# PERFORMANCE STEPS:

- 1. Review references.
- 2. Coordinate supply support requirements with unit's supply section.
- 3. Validate equipment SL-3 Using Unit Responsibility Items (UURI) requirements.
- 4. Provide input for budget requirements.
- 5. Supervise execution of allocated funding.
- 6. Determine maintenance requirements.
- 7. Determine supply requirements.
- 8. Determine fuel requirements.
- 9. Supervise shop/section  $\mbox{Pre-Expended Bin (PEB)}$  and repair order layette procedures.
- 10. Ensure parts, supplies, and fuel are obtained.
- 11. Supervise shop/section validation/reconciliation procedures.
- 12. Ensure required documentation is maintained.

**RELATED EVENTS:** 1120-ADMN-2061

# REFERENCES:

1. MCO 4050.38\_ Personal Effects and Baggage Manual

- 2. MCO 4105.2\_ Marine Corps Warranty Program
- 3. MCO 4400.120\_ Joint Regulation Governing the Use and Application of Uniform Source Maintenance and Recoverability Codes
- 4. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
- 5. MCO 4410.9\_ Assignment of Local Stock Numbers and Criteria for Determining Assignment of National Stock Numbers
- 6. MCO 4450.12\_ Storage and Handling of Hazardous Materials
- 7. MCO 4733.1\_ Marine Corps Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
- 8. MCO 4790.18\_ Corrosion Prevention and Control (CPAC) Program
- 9. MCO 5530.14\_ Marine Corps Physical Security Program Manual
- 10. MCO 7300.21\_ Marine Corps Financial Management Standard Operating Procedure Manual
- 11. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 12. MCO P4400.82\_ Regulated/Controlled Item Management Manual
- 13. MCO P4790.2\_ MIMMS Field Procedures Manual
- 14. NAVMC 2664 Financial Guidebook for Commanders
- 15. SECNAVINST 4355.18 Reporting of Supply Discrepancies
- 16. TM 4700-15/1\_ Ground Equipment Record Procedures
- 17. TM 4795-34/2\_ Corrosion Prevention and Control, Rustproofing and Underbody Coating Procedures for Tactical Vehicles, Trailers, and Engineering Equipment
- 18. TM 4795-OR/1A Organizational Corrosion Prevention and Control Procedures for USMC Ground Combat Equipment
- 19. UNIT SOP Unit's Standing Operating Procedures

1169-ADMN-2062: Place new equipment in service

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Section SNCOIC, Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With equipment, Fielding Plan (FP), and references.

STANDARD: So equipment is supported by maintainers and operators.

# PERFORMANCE STEPS:

- 1. Review equipment's Fielding Plan (FP).
- 2. Establish a training plan for the new equipment.
- 3. Determine licensing requirements.

**RELATED EVENTS:** 1120-ADMN-2062

- 1. Appropriate Technical Manuals
- 2. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 3. UNIT SOP Unit's Standing Operating Procedures

1169-ADMN-2063: Validate unit T/O&E

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: T/O&E is Table of Organization and Equipment.

BILLETS: Section SNCOIC, Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: With current T/O&E, unit's Mission Essential Task List (METL), personnel roster, Consolidated Memorandum Receipt (CMR), and references.

STANDARD: So platoon/section capabilities will support unit's METL.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review unit's METLs.
- 3. Review T/O&E mission statement.
- 4. Compare T/O to personnel assigned to unit.
- 5. Compare T/E to CMR and equipment assigned to unit.
- 6. Identify discrepancies (additions/deletions).
- 7. Initiate T/O&E Change Request (TOECR), if required.

#### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCO 5311.1\_ Total Force Structure Process (TFSP)
- 3. MCO 5320.12\_ Precedence Levels for Manning and Staffing
- 4. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 5. MCO P4790.2\_ MIMMS Field Procedures Manual
- 6. UNIT SOP Unit's Standing Operating Procedures
- 7. Unit T/O&E Unit's Table of Organization and Equipment

1169-ADMN-2064: Reconcile section's CMR

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 3 months

DESCRIPTION: CMR is Consolidated Memorandum Receipt.

BILLETS: Section SNCOIC, Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With equipment, chests, sets, kits, personnel, records, and references.

**STANDARD:** So assets are accounted for and available to support unit's mission.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review CMR.
- 3. Validate equipment National Stock Numbers (NSN).
- 4. Validate equipment serial numbers.
- 5. Collect documentation (SL-3 inventories, 1348-1s, ECR cards, Service Requests (SR), etc.).
- 6. Verify equipment quantities.
- 7. Identify deficiencies/discrepancies.
- 8. Initiate Missing, Lost, Stolen, Recovered (MLSR) report (if required).

#### RELATED EVENTS:

1120-ADMN-2064 1169-ADMN-2007 1169-ADMN-2063

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. MCO 5530.14\_ Marine Corps Physical Security Program Manual
- 5. MCO P4400.150 Consumer Level Supply Policy Manual
- 6. MCO P4790.2 MIMMS Field Procedures Manual
- 7. UNIT SOP Unit's Standing Operating Procedures
- 8. Unit T/O&E Unit's Table of Organization and Equipment

1169-ADMN-2065: Supervise equipment availability

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Section SNCOIC, Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With equipment records, reports, and references.

STANDARD: So unit's mission is supported with required equipment.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Identify shortages/excesses.
- 3. Review readiness.
- 4. Review priority designator assignments.
- 5. Review maintenance cycle time.
- 6. Develop a plan to increase equipment availability.

#### PREREQUISITE EVENTS:

1169-ADMN-2071 1169-ADMN-2072 1169-ADMN-2073

RELATED EVENTS:

1120-ADMN-2065 1169-ADMN-2061 1169-ADMN-2062

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 5. MCO 3000.11\_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
- 6. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
- 7. MCO P4400.150 Consumer Level Supply Policy Manual
- 8. MCO P4790.2 MIMMS Field Procedures Manual
- 9. UNIT SOP Unit's Standing Operating Procedures

1169-ADMN-2071: Validate maintenance management reports

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Section SNCOIC, Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: With access to Global Combat Support System-Marine Corps (GCSS-MC), maintenance management reports, supporting documentation, and references.

**STANDARD:** So accuracy of maintenance management reports is validated and unit's readiness and equipment serviceability are enhanced.

#### PERFORMANCE STEPS:

- 1. Obtain current Maintenance Process Report (MPR).
- 2. Review references.
- 3. Review supporting documentation (equipment records).
- 4. Review MPR maintenance cycle times.
- 5. Validate daily maintenance reports.
- 6. Validate weekly maintenance reports.
- 7. Validate readiness reports.
- 8. Identify "exceptions."
- 9. Determine actions (if any) to correct "exceptions."
- 10. Make corrections (if any) to Service Requests (SR).
- 11. Debrief SRs.

### PREREQUISITE EVENTS:

1169-ADMN-2006 1169-ADMN-2007 1169-ADMN-2064

### RELATED EVENTS:

1120-ADMN-2071 1169-ADMN-2061 1169-ADMN-2062 1169-ADMN-2065 1169-ADMN-2072 1169-ADMN-2073

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES)

Equipment

- 4. MCO 3000.11\_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
- 5. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
- 6. MCO P4790.2\_ MIMMS Field Procedures Manual
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures
- 8. Unit SOP Unit's Standing Operating Procedures

### SUPPORT REQUIREMENTS:

MATERIAL: Maintenance Process Report (MPR)

1169-ADMN-2072: Monitor maintenance related programs

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**BILLETS:** Section SNCOIC, Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, equipment records, and references.

STANDARD: So unit's readiness and equipment serviceability are enhanced.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Determine unit's maintenance program requirements.
- 3. Inspect equipment.
- 4. Monitor Modification Control program.
- 5. Monitor Calibration Control program.
- 6. Monitor New Equipment Warranty program.
- 7. Monitor Quality Deficiency (QDR) program.
- 8. Monitor Recoverable Items (WIR) program.
- 9. Monitor Quality Control (QC) program.
- 10. Monitor Corrosion Prevention and Control (CPAC) program.
- 11. Ensure program and equipment records are maintained.

### RELATED EVENTS:

| 1120-ADMN-2072 | 1141-ADMN-2072 | 1142-ADMN-2072 |
|----------------|----------------|----------------|
| 1161-ADMN-2072 | 1169-ADMN-2041 | 1169-ADMN-2051 |
| 1169-ADMN-2052 | 1169-ADMN-2065 | 1169-ADMN-2071 |
| 1169-ADMN-2073 | 1171-ADMN-2072 |                |

- 1. Appropriate Technical Manuals
- 2. MCO 4400.194\_ Marine Corps Class VII Stock Rotation Policy
- 3. MCO 4733.1\_ Marine Corps Test, Measurement, and Diagnostics Equipment (TMDE) Calibration and Maintenance Program (CAMP)
- 4. MCO 4790.18\_ Corrosion Prevention and Control (CPAC) Program
- 5. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 6. MCO P4400.82\_ Regulated/Controlled Item Management Manual

- 7. MCO P4790.2\_ MIMMS Field Procedures Manual
- 8. TI 4733-OD/1\_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
- 9. TM 4700-15/1\_ Ground Equipment Record Procedures
- 10. TM 750-245-4 Direct Support, General Support Quality Control Inspector's Inspection Criteria
- 11. Unit SOP Unit's Standing Operating Procedures

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Some programs listed above may not be required at all units.

1169-ADMN-2073: Manage equipment records

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Section SNCOIC, Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With equipment, equipment records, forms, and references.

**STANDARD:** So section's readiness can be determined.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Identify records requirements.
- 3. Ensure records are established for each piece of equipment.
- 4. Manage records.

**RELATED EVENTS:** 1120-ADMN-2073

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 4. MCO 3000.11\_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
- 5. MCO 3000.13\_ Marine Corps Readiness Reporting Standard Operating Procedures (SOP)
- 6. MCO 5210.11\_ Marine Corps Records Management Program
- 7. MCO 5600.31\_ Marine Corps Printing and Publishing Regulations
- 8. MCO P4400.160\_ Field Supply and Maintenance Analysis Office Program (FSMAO)
- 9. MCO P4790.2\_ MIMMS Field Procedures Manual
- 10. TM 4700-15/1\_ Ground Equipment Record Procedures
- 11. Unit SOP Unit's Standing Operating Procedures

1169-ADMN-2074: Validate Maintenance Shop procedures

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Section SNCOIC, Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: In a shop, with maintenance management checklists and references.

STANDARD: So all functional areas are certified mission capable.

#### PERFORMANCE STEPS:

- 1. Review checklists.
- 2. Gather/review the required checklist references.
- 3. Inspect shop functional areas.
- 4. Administer corrective actions, as necessary.

### RELATED EVENTS:

| 1169-ADMN-2001 | 1169-ADMN-2002 | 1169-ADMN-2006 |
|----------------|----------------|----------------|
| 1169-ADMN-2007 | 1169-ADMN-2021 | 1169-ADMN-2022 |
| 1169-ADMN-2023 | 1169-ADMN-2051 | 1169-ADMN-2052 |
| 1169-ADMN-2061 | 1169-ADMN-2062 | 1169-ADMN-2063 |
| 1169-ADMN-2064 | 1169-ADMN-2065 | 1169-ADMN-2071 |
| 1169-ADMN-2072 | 1169-ADMN-2073 | 1169-ADMN-2081 |
| 1169-ADMN-2082 |                |                |

### REFERENCES:

- MCO P4400.160\_ Field Supply and Maintenance Analysis Office Program (FSMAO)
- 2. MCO P4790.2\_ MIMMS Field Procedures Manual
- 3. Unit SOP Unit's Standing Operating Procedures

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: There are numerous Marine Corps websites that have downloadable checklists. However; it is recommend that the checklists used for this event be obtained from local inspectors.

1169-ADMN-2075: Supervise field maintenance

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Section SNCOIC, Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

 $\underline{\text{CONDITION}}$ : With an Operation Order, environmental impact report, camp layout, equipment, resources, and references.

**STANDARD:** So unit's mission is supported with required maintenance capabilities.

### PERFORMANCE STEPS:

- 1. Review the Operation Order, environmental impact report, camp layout, and references.
- 2. Plan field maintenance operation.
- 3. Obtain contingency RUCs/JONs, etc.
- 4. Determine utilities portions of contingency Class IX repair parts block.
- 5. Determine safety/environmental considerations.
- 6. Establish guidelines for field maintenance facility operation.
- 7. Establish field maintenance facility.
- 8. Supervise equipment maintenance.
- 9. Supervise records maintenance.
- 10. Recover field maintenance facility.

### RELATED EVENTS:

| 1169-ADMN-2021 | 1169-ADMN-2022 | 1169-ADMN-2051 |
|----------------|----------------|----------------|
| 1169-ADMN-2052 | 1169-ADMN-2065 | 1169-ADMN-2071 |
| 1169-ADMN-2073 | 1169-ADMN-2074 |                |

### **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. MCO P4790.2\_ MIMMS Field Procedures Manual
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. Unit SOP Unit's Standing Operating Procedures

1169-ADMN-2081: Monitor equipment embarkation requirements

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Section SNCOIC, Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With equipment, personnel, unit embarkation reports, equipment marking/labeling support, and references.

STANDARD: So unit's readiness/movement will be supported per MCRP 4-11.3G.

- 1. Review references.
- 2. Validate turnover folders/desktop procedures.
- 3. Reconcile Unit Deployment List (UDL) with Table of Organization and Equipment (T/O&E) and Consolidated Memorandum Receipt (CMR).
- 4. Review MAGTF Deployment Support System II (MDSS II)/Marine Air Ground Task Force II (MAGTF II) Logistics Automated Information System (LOGAIS) reports.
- 5. Review Joint Operational Planning and Execution System (JOPES) reports.
- 6. Inspect assigned equipment.

- 7. Identify Remain Behind Equipment (RBE).
- 8. Identify Leave Behind Equipment (LBE).
- 9. Ensure equipment is marked/labeled for transportation/embarkation.
- 10. Ensure equipment is disassembled, stowed, packed, and/or prepared for transportation/embarkation.
- 11. Provide input for Tab B (Embarkation Plan) to Appendix 14 to Annex C of Operation Orders.
- 12. Coordinate with unit embarkation personnel to ensure that discrepancies with MDSS II, MAGTF II LOGAIS, and or JOPES reports are corrected.

#### RELATED EVENTS:

1120-ADMN-2081 1169-ADMN-2007 1169-ADMN-2063 1169-ADMN-2064 1169-ADMN-2065 1169-ADMN-2073

- 1. CJCSM 3122.05 Operating Procedures for Joint Operation Planning and Execution System (JOPES) Information Systems (IS) Governance
- 2. DoDD 4500.09E Transportation and Traffic Management
- 3. DTR 4500.9-R Defense Transportation Regulation
- 4. JP 1-02 Department of Defense Dictionary of Military and Associated Terms
- 5. JP 3-02 Amphibious Operations
- 6. JP 3-02.1 Amphibious Embarkation and Debarkation
- 7. JP 4-0 Joint Logistics
- 8. JP 4-01.2 Sealift Support to Joint Operations
- 9. JP 4-01.5 Joint Terminal Operations
- 10. JP 4-01.6 Joint Logistics Over-the-Shore (JLOTS)
- 11. JP 4-07 Joint Tactics, Techniques, and Procedures for Common-User Logistics During Joint Operations
- 12. JP 5-0 Joint Operation Planning
- 13. MCBul 4081 Marine Air Ground Task Force (MAGTF) Logistics Support Systems (MLS2)
- 14. MCO 3000.18\_ Marine Corps Force Deployment Planning and Execution (FDP&E) Manual
- 15. MCO 4410.28\_ Item Unique Identification (IUID) of Ground Equipment
- 16. MCO 4631.10\_ Operational Support Airlift Management
- 17. MCO 4680.5\_ Containerization Policy
- 18. MCO P4030.19\_ Preparing Hazardous Materials for Military Air Shipments
- 19. MCO P4600.7\_ Marine Corps Transportation Manual
- 20. MCRP 3-31B Amphibious Ships and Landing Craft Data Book
- 21. MCRP 4-11.3G Unit Embarkation Handbook
- 22. MCRP 4-11C Combat Cargo Operations Handbook
- 23. MCRP 5-12D Organization of Marine Corps Forces
- 24. MCWP 3-31.5 Ship-to-Shore Movement
- 25. MCWP 3-32 Maritime Prepositioning Force Operations
- 26. MCWP 4-1 Logistics Operations
- 27. MCWP 4-11 Tactical-Level Logistics
- 28. MCWP 4-11.3 Transportation Operations
- 29. MCWP 4-11.8 Services in an Expeditionary Environment
- 30. MCWP 4-12 Operational-Level Logistics
- 31. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 32. TM 11240-OD Principal Technical Characteristics of U.S. Marine Corps Motor Transportation Equipment
- 33. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment

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- 34. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 35. TM 4750-OD/1 Painting, Coating, Underbody and Registration Marking for Marine Corps Combat and Tactical Equipment
- 36. Unit SOP Unit's Standing Operating Procedures
- 37. Unit T/O&E Unit's Table of Organization and Equipment

1169-ADMN-2082: Administer equipment operator licensing program

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Section SNCOIC, Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With personnel, supporting documentation, licensing records, and references.

<u>STANDARD</u>: So licensed operators are available to operate the unit's equipment per TM 11275-15/4.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Determine operator licensing requirements.
- 3. Review Operator History File.
- 4. Review equipment training and testing programs.
- 5. Review Action Date File to ensure timely renewal actions.
- 6. Review and approve or reject license applications (and renewals).
- 7. Review and approve completed OF 346 (U.S. Government Motor Vehicle Operator's Identification Card).
- 8. Ensure all issued licenses are recorded in the License Log Book.
- 9. Ensure any licensing action (issues/renewals/revocations) is recorded in the individual's Service Record Book (SRB).

**RELATED EVENTS:** 1120-ADMN-2082

#### **REFERENCES:**

- 1. MCO 11240.66\_ Standard Licensing Policy for Operators of Military Motor Vehicles
- 2. MCO 6260.1\_ Marine Corps Hearing Conservation Program
- 3. MCO P4790.2\_ MIMMS Field Procedures Manual
- 4. TM 11240-15/3\_ Motor Vehicle Licensing Official's Manual
- 5. TM 11240-OD Principal Technical Characteristics of U.S. Marine Corps Motor Transportation Equipment
- 6. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 7. TM 11275-15/4 Tactical Engineer Equipment Licensing Manual
- 8. Unit SOP Unit's Standing Operating Procedures

1169-ADMN-2091: Brief utilities support plan

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**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With an Operation Order, site survey, camp layout, and references.

STANDARD: So command is aware of the utilities situation.

#### PERFORMANCE STEPS:

- 1. Determine briefing requirements.
- 2. Gather briefing materials.
- 3. Present the information.
- 4. Answer questions (as required).

#### **REFERENCES:**

- 1. ATTP 5-0.1 Commander and Staff Officer Guide
- 2. MCWP 5-1 Marine Corps Planning Process (MCPP)

1169-XENG-2501: Plan a utilities site survey

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With mission, commander's intent, map, and references.

<u>STANDARD</u>: So detailed Requests for Information (RFI) are developed, ensuring information is gathered to plan utilities support in compliance with the mission and commander's intent.

- 1. Review mission, enemy, terrain and weather, troops and fire support available time available, space, and logistics (METT-TSL).
- 2. Review commander's intent.
- 3. Review map.
- 4. Develop RFIs on available host nation/local vendor support.
- 5. Develop RFIs on water sources.
- 6. Develop RFIs for water storage sites.
- 7. Develop RFIs for hygiene sites.
- 8. Develop RFIs on waste water disposal.
- 9. Develop RFIs for refrigeration sites.
- 10. Develop RFIs for environmental control requirements.
- 11. Develop RFIs for generator sites.
- 12. Develop RFIs on electrical power distribution requirements.

13. Prioritize RFIs.

#### RELATED EVENTS:

1120-XENG-2501 1169-XENG-2502

- 1. ATTP 5-0.1 Commander and Staff Officer Guide
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. FM 3-55 Information Collection
- 5. FMFM 7-29 Mountain Operations
- 6. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 7. MCO 3000.18\_ Marine Corps Force Deployment Planning and Execution (FDP&E) Manual
- 8. MCO 3500.27\_ Operational Risk Management (ORM)
- 9. MCO P5090.2\_ Environmental Compliance and Protection Manual
- 10. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 11. MCRP 3-17.7F Project Management
- 12. MCRP 3-17.7K Theater of Operations Electrical Systems
- 13. MCRP 3-17B Engineer Forms and Reports
- 14. MCRP 3-35.1D Cold Region Operations
- 15. MCRP 4-11.1D Field Hygiene and Sanitation
- 16. MCRP 4-11.8A Marine Corps Field Feeding Program
- 17. MCRP 4-11B Environmental Considerations
- 18. MCRP 5-12A Operational Terms and Graphics
- 19. MCWP 3-17 Engineering Operations
- 20. MCWP 3-17.4 Engineer Reconnaissance
- 21. MCWP 3-17.7 General Engineering
- 22. MCWP 3-35.5 Jungle Operations
- 23. MCWP 3-35.6 Desert Operations
- 24. MCWP 4-11.4 Maintenance Operations
- 25. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 26. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 27. NAVMC DIR 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Program Manual
- 28. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 29. NAVMED P-5010-5 Manual of Naval Preventive Medicine, Chapter 5, Water Supply Ashore
- 30. TB MED 593 Guidelines for Field Waste Management
- 31. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 32. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 33. TM 5-811-1 Electric Power Supply and Distribution
- 34. TM 5-811-3 Electrical Design, Lightning and Static Electricity Protection
- 35. TM 5-813-1 Water Supply, Sources and General Considerations
- 36. TM 5-813-3 Water Supply, Water Treatment
- 37. TM 5-813-4 Water Supply, Water Storage
- 38. TM 5-813-5 Water Supply, Water Distribution
- 39. TM 5-813-7 Water Supply for Special Projects
- 40. TM 5-813-8 Water Desalination
- 41. TM 5-813-9 Water Supply, Pumping Stations
- 42. TM 5-820-4 Drainage for Areas Other Than Airfields

43. Unit T/O&E Unit's Table of Organization and Equipment

### SUPPORT REQUIREMENTS:

**MATERIAL:** Map

1169-XENG-2502: Conduct utilities site survey

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With warning order, developed Requests for Information (RFI), personnel, transportation, area map, equipment, materials, forms, and references.

**STANDARD:** So data for planning unit support will be available to generate utilities support plan(s) per the warning order.

#### PERFORMANCE STEPS:

- 1. Review warning order, Requests for Information (RFI) and references.
- 2. Review map.
- 3. Brief personnel.
- 4. Conduct survey.
- 5. Evaluate site(s) for safety concerns.
- 6. Evaluate site(s) for environmental concerns.
- 7. Ensure conditions are evaluated and recorded on reconnaissance reports and Smartcards.
- 8. Evaluate alternate sites.
- 9. Evaluate site(s) for camouflage, concealment, and decoys.
- 10. Evaluate site(s) for Rear Area Security concerns.
- 11. Develop Site Survey Report.
- 12. Brief Site Survey to those concerned.
- 13. Provide input for camp layout.
- 14. Provide input for engineer portions of operation orders.

# PREREQUISITE EVENTS: 1169-XENG-2501

### RELATED EVENTS:

| 1141-XENG-2501 | 1169-XENG-2521 | 1169-XENG-2541 |
|----------------|----------------|----------------|
| 1169-XENG-2553 | 1169-XENG-2555 | 1169-XENG-2558 |
| 1169-XENG-2622 | 1171-XENG-1702 | 1171-XENG-2501 |

- 1. ATTP 5-0.1 Commander and Staff Officer Guide
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. FM 3-55 Information Collection
- 5. FMFM 7-29 Mountain Operations

- 6. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 7. MCO 3000.18\_ Marine Corps Force Deployment Planning and Execution (FDP&E) Manual
- 8. MCO 3500.27\_ Operational Risk Management (ORM)
- 9. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 10. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 11. MCRP 3-17.7F Project Management
- 12. MCRP 3-17.7K Theater of Operations Electrical Systems
- 13. MCRP 3-17.7N Base Camps
- 14. MCRP 3-17B Engineer Forms and Reports
- 15. MCRP 3-35.1D Cold Region Operations
- 16. MCRP 4-11.1D Field Hygiene and Sanitation
- 17. MCRP 4-11.8A Marine Corps Field Feeding Program
- 18. MCRP 4-11B Environmental Considerations
- 19. MCRP 5-12A Operational Terms and Graphics
- 20. MCWP 3-17 Engineering Operations
- 21. MCWP 3-17.4 Engineer Reconnaissance
- 22. MCWP 3-17.7 General Engineering
- 23. MCWP 3-35.5 Jungle Operations
- 24. MCWP 3-35.6 Desert Operations
- 25. MCWP 3-41.1 Rear Area Operations
- 26. MCWP 4-1 Logistics Operations
- 27. MCWP 4-11 Tactical-Level Logistics
- 28. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 29. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 30. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 31. NAVMED P-5010-5 Manual of Naval Preventive Medicine, Chapter 5, Water Supply Ashore
- 32. TB MED 593 Guidelines for Field Waste Management
- 33. TM 10-6630-222-12&P Operator and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Water Quality Analysis Set: Purification (WQAS-P)
- 34. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 35. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 36. TM 5-811-1 Electric Power Supply and Distribution
- 37. TM 5-811-3 Electrical Design, Lightning and Static Electricity Protection
- 38. TM 5-813-1 Water Supply, Sources and General Considerations
- 39. TM 5-813-3 Water Supply, Water Treatment
- 40. TM 5-813-4 Water Supply, Water Storage
- 41. TM 5-813-5 Water Supply, Water Distribution
- 42. TM 5-813-7 Water Supply for Special Projects
- 43. TM 5-813-8 Water Desalination
- 44. TM 5-813-9 Water Supply, Pumping Stations
- 45. TM 5-820-4 Drainage for Areas Other Than Airfields

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)
Water Quality Analysis Set, Purification (WQAS-P) [B2630]
Compass [K4222]

Camera Calculator Tape measure

# MATERIAL:

Area topographical map(s)
Electricity Smartcard (Figure C-4 of MCWP 3-17.4)
DA Form 1712-R (Water Reconnaissance Report)
Water Smartcard (Figure C-3 of MCWP 3-17.4)
Pens/pencils

#### UNITS/PERSONNEL:

Security may be required

MOS 1171 (Water Support Technician) to test water with WQAS-P MOS 5711 (Nuclear Biological and Chemical Defense (NBCD) Specialist) to test water for NBC contamination

OTHER SUPPORT REQUIREMENTS: Transportation (by vehicle or aircraft) will be required for access to prospective site(s).

#### MISCELLANEOUS:

#### ADMINISTRATIVE INSTRUCTIONS:

MOS 5711 (Nuclear Biological and Chemical Defense (NBCD) Specialist) will test water for NBC contamination

MOS 1171 (Water Support Technicians) are licensed operators of the Water Quality Analysis Set, Purification (WQAS-P) [B2630]

Initial training for this event is received in the Utilities Chief course (CID: M0311E2)

**SPECIAL PERSONNEL CERTS:** Operators of the Water Quality Analysis Set, Purification (WQAS-P) [B2630] must be licensed.

1169-XENG-2521: Plan a field electrical power generation/distribution system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a warning order requiring a base camp(s), area map(s), area reconnaissance report(s), any environmental impact report(s), camp layout(s), and references.

**STANDARD:** So requirements of warning order are supported; with electrical power generation and distribution drawn on camp layout(s) and a Course of Action (COA) established; and input provided for Annex D of the Operation Order.

# PERFORMANCE STEPS:

- Review warning order, map(s), reconnaissance report(s), camp layout(s), and references.
- 2. Identify equipment/personnel requiring electrical support.
- 3. Determine electrical power generation/distribution equipment requirements, selecting equipment sites.
- 4. Determine environmental impacts.
- 5. Plot generation sites on camp layout(s), making provision for traffic.
- 6. Identify potential impact of weather/climate on electrical power generation/distribution operations.
- 7. Determine risks, conducting operational risk assessments.
- 8. Identify "Off Limit" areas (i.e., generator sites, hazardous material sites, etc.).
- 9. Determine number and type of warning signs required.
- 10. Schedule Preventive Maintenance Checks and Services (PMCS).
- 11. Determine POL requirements.
- 12. Determine camouflage, concealment, and decoy requirements.
- 13. Determine security requirements.
- 14. Estimate man-hour requirements, determining number of electricians required to support the mission.
- 15. Establish operator schedules.
- 16. Estimate logistical support (truck, forklift, etc.) required.
- 17. Establish Bill of Materials (BOM) including security, camouflage, environmental, and safety items.
- 18. Generate work request(s) for any required construction.
- 19. Establish a Course of Action (COA).
- 20. Record requirements for input into Annex D of the Operation Order.
- 21. Brief electrical support plan (if required).

# **PREREQUISITE EVENTS:** 1169-XENG-2502

#### RELATED EVENTS:

 1120-XENG-2521
 1141-XENG-2521
 1169-XENG-2522

 1169-XENG-2621
 1169-XENG-2721
 1169-XENG-2821

# REFERENCES:

- 1. Appropriate Technical Manuals
- 2. 29 CFR 1910.269 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 269 Electrical Power Generation, Transmission, and Distribution
- 3. 29 CFR 1910.301-399 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Subpart S, (Standard Numbers 301-399) Electrical
- 4. ATTP 5-0.1 Commander and Staff Officer Guide
- 5. FMFM 7-29 Mountain Operations
- 6. MCO 3000.18\_ Marine Corps Force Deployment Planning and Execution (FDP&E) Manual
- 7. MCO 3500.27\_ Operational Risk Management (ORM)
- 8. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 9. MCRP 3-17.7F Project Management
- 10. MCRP 3-17.7K Theater of Operations Electrical Systems
- 11. MCRP 3-17.7N Base Camps
- 12. MCRP 3-17B Engineer Forms and Reports
- 13. MCRP 3-35.1D Cold Region Operations
- 14. MCRP 4-11.8A Marine Corps Field Feeding Program

- 15. MCRP 4-11B Environmental Considerations
- 16. MCRP 5-12A Operational Terms and Graphics
- 17. MCWP 3-17 Engineering Operations
- 18. MCWP 3-17.4 Engineer Reconnaissance
- 19. MCWP 3-17.7 General Engineering
- 20. MCWP 3-35.5 Jungle Operations
- 21. MCWP 3-35.6 Desert Operations
- 22. MCWP 3-41.1 Rear Area Operations
- 23. MCWP 4-1 Logistics Operations
- 24. MCWP 4-11 Tactical-Level Logistics
- 25. MCWP 4-11.5 Seabee Operations in the MAGTF
- 26. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 27. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 28. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 29. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 30. TM 5-811-1 Electric Power Supply and Distribution
- 31. TM 5-811-3 Electrical Design, Lightning and Static Electricity Protection
- 32. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

#### SUPPORT REQUIREMENTS:

### MATERIAL:

Area topographical map(s)
Electric Smartcards (Figure C-4 of MCWP 3-17.4)
Area reconnaissance report(s)
Environmental impact report(s) (if any)
Camp layout(s)

1169-XENG-2522: Design a field expedient electrical distribution panel

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

<u>DESCRIPTION</u>: THIS EVENT IS A "LAST RESORT." Completion of this event will be the first step in ensuring uninterrupted electrical power in a field environment, as a stop gap, if required MEPDIS/MEPDIS-R is not available. The "electrical distribution panel" is more commonly known as a "bus-bar."

BILLETS: Utilities Chief

**GRADES:** GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**<u>CONDITION:</u>** With a known requirement for uninterrupted electrical power, a list of available materials, and references.

<u>STANDARD</u>: So electrical power can be distributed/disconnected/paralleled from the electrical power source, through overcurrent protection, to the distribution system as safely as possible.

# PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARDS.
- 2. Determine maximum amperage of electrical distribution grid.
- 3. Determine size of conductors.
- 4. Determine size of over current protection.
- 5. Determine bonding and grounding requirements.
- 6. Determine impact of weather on "distribution panel."
- 7. Identify safety zones, signage requirements.
- 8. Determine remaining construction and electrical materials required.
- 9. Draw "distribution panel," detailing safety considerations.
- 10. Establish a Bill of Materials (BOM).
- 11. Document operational risks.
- 12. Obtain approval of risks from appropriate command level.

# PREREQUISITE EVENTS:

1169-ADMN-2001 1169-ADMN-2002 1169-ADMN-2031

# RELATED EVENTS:

1120-XENG-2522 1169-XENG-2521

# REFERENCES:

- 1. Appropriate Technical Manuals
- 2. 29 CFR 1910.147 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 147 Control of Hazardous Energy (Lockout/Tagout)
- 3. 29 CFR 1910.269 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 269 Electrical Power Generation, Transmission, and Distribution
- 4. 29 CFR 1910.301-399 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Subpart S, (Standard Numbers 301-399) Electrical
- 5. ATTP 5-0.1 Commander and Staff Officer Guide
- 6. MCO 3500.27\_ Operational Risk Management (ORM)
- 7. MCRP 3-17.7K Theater of Operations Electrical Systems
- 8. MCRP 3-17.7M Construction Estimating
- 9. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 10. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 11. TC 11-6 Grounding Techniques
- 12. TM 5-690 Grounding and Bonding in Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) Facilities
- 13. TM 5-811-1 Electric Power Supply and Distribution
- 14. TM 5-811-3 Electrical Design, Lightning and Static Electricity Protection
- 15. TM 5-811-7 Electrical Design, Cathodic Protection
- 16. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

MATERIAL: Risk Management Worksheet

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Risk Management Worksheet should be approved by appropriate commander after risks are fully briefed.

<u>1169-XENG-2541</u>: Plan field refrigeration/environmental control equipment support

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a warning order requiring a base camp(s), area map(s), area reconnaissance report(s), any environmental impact report(s), camp layout(s), and references.

**STANDARD:** So requirements of warning order are supported; with refrigeration/environmental control equipment drawn on camp layout(s) and a Course of Action (COA) established; and input provided for the Operation Order.

#### PERFORMANCE STEPS:

- Review warning order, map(s), reconnaissance report(s), camp layout(s), and references.
- 2. Identify equipment/personnel requiring heating and air conditioning support.
- 3. Determine environmental control equipment requirements, selecting equipment sites.
- 4. Identify areas/activities requiring refrigeration support.
- 5. Determine field refrigeration system requirements, selecting equipment sites.
- 6. Determine environmental impacts.
- 7. Plot Environmental Control Unit (ECU) sites on camp layout(s).
- 8. Plot field refrigeration system sites on camp layout(s).
- 9. Identify potential impact of weather/climate on refrigeration/ECU operations.
- 10. Determine risks, conducting operational risk assessments.
- 11. Determine number and type of warning signs required.
- 12. Schedule Preventive Maintenance Checks and Services (PMCS).
- 13. Determine camouflage, concealment, and decoy requirements.
- 14. Estimate man-hour requirements, determining number of Refrigeration and Air Conditioning Technicians required to support the mission.
- 15. Estimate logistical support (truck, forklift, etc.) required.
- 16. Establish Bill of Materials (BOM) including security, camouflage, environmental, and safety items.
- 17. Generate work request(s) for any required construction.
- 18. Establish a Course of Action (COA).
- 19. Record requirements for input into the Operation Order.
- 20. Brief plan (if required).

# **PREREQUISITE EVENTS:** 1169-XENG-2502

NAVMC 3500.12B 22 Jan 2014

RELATED EVENTS:

1120-XENG-2541 1169-XENG-2641 1169-XENG-2741

1169-XENG-2841

# **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. ATTP 5-0.1 Commander and Staff Officer Guide
- MCO 3000.18\_ Marine Corps Force Deployment Planning and Execution (FDP&E)
   Manual
- 4. MCO 3500.27\_ Operational Risk Management (ORM)
- 5. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 6. MCRP 3-17.7F Project Management
- 7. MCRP 3-17.7N Base Camps
- 8. MCRP 3-17B Engineer Forms and Reports
- 9. MCRP 3-35.1D Cold Region Operations
- 10. MCRP 4-11.8A Marine Corps Field Feeding Program
- 11. MCRP 4-11B Environmental Considerations
- 12. MCRP 5-12A Operational Terms and Graphics
- 13. MCWP 3-17 Engineering Operations
- 14. MCWP 3-17.4 Engineer Reconnaissance
- 15. MCWP 3-17.7 General Engineering
- 16. MCWP 3-35.5 Jungle Operations
- 17. MCWP 3-35.6 Desert Operations
- 18. MCWP 3-41.1 Rear Area Operations
- 19. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 20. PL 101-549 Public Law No: 101-549 Clean Air Act Amendments of 1990
- 21. SL-3-11574A Components List for Large Field Refrigeration System
- 22. SL-3-11609A Components List for Small Field Refrigeration System
- 23. SL-3-4120 Components List for Family of Environmental Control Units
- 24. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 25. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 26. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

#### SUPPORT REQUIREMENTS:

# MATERIAL:

Area topographical map(s)

Area reconnaissance report(s)

Environmental impact report(s) (if any)

Camp layout(s)

1169-XENG-2553: Plan field water support

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a warning order requiring a base camp(s), area map(s), area reconnaissance report(s), water reconnaissance report(s), any environmental impact report(s), camp layout(s), and references.

**STANDARD:** So requirements of warning order are supported; with water sites and distribution points drawn on camp layout(s) and a Course of Action (COA) established; and input provided for Appendix 2 to Annex D of the Operation Order.

#### PERFORMANCE STEPS:

- Review warning order, map(s), reconnaissance report(s), camp layout(s), and references.
- 2. Identify equipment/personnel requiring water support.
- 3. Determine water purification/storage/distribution equipment requirements, selecting equipment sites.
- 4. Determine environmental impacts.
- 5. Plot equipment sites on camp layout(s).
- 6. Select water point location(s) making provision for traffic and drainage.
- 7. Plot water point(s) on camp layout(s).
- 8. Plot distribution methods on camp layout(s).
- 9. Identify potential impact of weather/climate on water purification, storage, and distribution operations.
- 10. Determine risks, conducting operational risk assessments.
- 11. Identify "Off Limit" areas (i.e., generator sites, hazardous material sites, etc.).
- 12. Determine number and type of warning signs required.
- 13. Schedule Preventive Maintenance Checks and Services (PMCS).
- 14. Determine POL requirements.
- 15. Determine chemical requirements for purification/storage operations.
- 16. Determine camouflage, concealment, and decoy requirements.
- 17. Determine security requirements.
- 18. Estimate man-hour requirements, determining number of water support personnel required to support the mission.
- 19. Establish operator schedules.
- 20. Estimate logistical support (truck, forklift, etc.) required.
- 21. Establish Bill of Materials (BOM) including security, camouflage, environmental, and safety items.
- 22. Generate work request(s) for any required construction.
- 23. Establish a Course of Action (COA).
- 24. Record requirements for input into Appendix 2 to Annex D of the Operation Order.
- 25. Brief water support plan (if required).

# **PREREQUISITE EVENTS:** 1169-XENG-2502

# RELATED EVENTS:

| 1120-XENG-2553 | 1169-XENG-2555 | 1169-XENG-2558 |
|----------------|----------------|----------------|
| 1169-XENG-2653 | 1169-XENG-2753 | 1169-XENG-2853 |
| 1171-XENG-2553 |                |                |

# REFERENCES:

- 1. Appropriate Technical Manuals
- 2. ATTP 5-0.1 Commander and Staff Officer Guide
- 3. FM 10-52 Water Supply in Theaters of Operation

- 4. FM 10-52-1 Water Supply Point Equipment and Operations
- 5. FM 3-55 Information Collection
- 6. FMFM 7-29 Mountain Operations
- 7. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 8. MCO 3000.18\_ Marine Corps Force Deployment Planning and Execution (FDP&E) Manual
- 9. MCO 3500.27\_ Operational Risk Management (ORM)
- 10. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 11. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 12. MCRP 3-17.7F Project Management
- 13. MCRP 3-17.7N Base Camps
- 14. MCRP 3-17B Engineer Forms and Reports
- 15. MCRP 3-35.1D Cold Region Operations
- 16. MCRP 4-11B Environmental Considerations
- 17. MCRP 5-12A Operational Terms and Graphics
- 18. MCWP 3-17 Engineering Operations
- 19. MCWP 3-17.4 Engineer Reconnaissance
- 20. MCWP 3-17.7 General Engineering
- 21. MCWP 3-35.5 Jungle Operations
- 22. MCWP 3-35.6 Desert Operations
- 23. MCWP 3-41.1 Rear Area Operations
- 24. MCWP 4-1 Logistics Operations
- 25. MCWP 4-11 Tactical-Level Logistics
- 26. MCWP 4-11.5 Seabee Operations in the MAGTF
- 27. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 28. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 29. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 30. NAVMED P-5010-5 Manual of Naval Preventive Medicine, Chapter 5, Water Supply Ashore
- 31. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 32. TM 5-813-1 Water Supply, Sources and General Considerations
- 33. TM 5-813-3 Water Supply, Water Treatment
- 34. TM 5-813-4 Water Supply, Water Storage
- 35. TM 5-813-5 Water Supply, Water Distribution
- 36. TM 5-813-7 Water Supply for Special Projects
- 37. TM 5-813-8 Water Desalination
- 38. TM 5-813-9 Water Supply, Pumping Stations
- 39. TM 5-820-4 Drainage for Areas Other Than Airfields
- 40. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

### SUPPORT REQUIREMENTS:

#### MATERIAL:

Area topographical map(s)

DA Form 1712-Rs (Water Reconnaissance Reports)

Water Smartcards (Figure C-3 of MCWP 3-17.4)

Area reconnaissance report(s)

Environmental impact report(s) (if any)

Camp layout(s)

1169-XENG-2555: Plan field hygiene equipment support

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a warning order requiring a base camp(s), map(s), reconnaissance report(s), camp layout(s) with water source and distribution points indicated, any environmental impact report(s), known soil type(s), and references.

**STANDARD:** So requirements of warning order are supported; with hygiene equipment site(s) drawn on the camp layout(s) and a Course of Action (COA) established; and input provided for Annex D and Appendix 6 to Annex Q of the Operation Order.

# PERFORMANCE STEPS:

- Review warning order, map(s), reconnaissance report(s), camp layout(s), and references.
- 2. Identify personnel requiring hygiene support.
- 3. Determine hygiene equipment requirements, selecting equipment sites and making provisions for traffic and drainage.
- 4. Determine environmental impacts.
- 5. Plot equipment sites on camp layout(s).
- 6. Identify potential impact of weather/climate on hygiene equipment operations.
- 7. Determine risks, conducting operational risk assessments.
- 8. Identify "Off Limit" areas (i.e., generator sites, hazardous material sites, etc.).
- 9. Determine number and type of warning sign(s) required.
- 10. Schedule Preventive Maintenance Checks and Services (PMCS).
- 11. Determine POL requirements.
- 12. Determine chemical requirements for hygiene operations.
- 13. Determine camouflage, concealment, and decoy requirements.
- 14. Determine security requirements.
- 15. Determine laundry/shower schedules for supported units.
- 16. Estimate man-hour requirements, determining number of water support personnel required to support hygiene mission.
- 17. Establish operator schedules.
- 18. Estimate logistical support (truck, forklift, etc.) required.
- 19. Establish a Bill of Materials (BOM) including security, camouflage, environmental, and safety items.
- 20. Generate work request(s) for any required construction.
- 21. Establish a Course of Action (COA).
- 22. Record requirements for input into Annex D and Appendix 6 to Annex Q of the Operation Order.
- 23. Brief hygiene equipment support plan (if required).

# **PREREQUISITE EVENTS:** 1169-XENG-2553

RELATED EVENTS:

 1120-XENG-2555
 1169-XENG-2558
 1169-XENG-2655

 1169-XENG-2855
 1171-XENG-2555

# **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. ATTP 5-0.1 Commander and Staff Officer Guide
- 3. FM 3-55 Information Collection
- 4. FMFM 7-29 Mountain Operations
- 5. MCO 3000.18\_ Marine Corps Force Deployment Planning and Execution (FDP&E) Manual
- 6. MCO 3500.27\_ Operational Risk Management (ORM)
- 7. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 8. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 9. MCRP 3-17.7F Project Management
- 10. MCRP 3-17.7N Base Camps
- 11. MCRP 3-17B Engineer Forms and Reports
- 12. MCRP 3-35.1D Cold Region Operations
- 13. MCRP 4-11.1D Field Hygiene and Sanitation
- 14. MCRP 4-11B Environmental Considerations
- 15. MCRP 5-12A Operational Terms and Graphics
- 16. MCWP 3-17 Engineering Operations
- 17. MCWP 3-17.4 Engineer Reconnaissance
- 18. MCWP 3-17.7 General Engineering
- 19. MCWP 3-35.5 Jungle Operations
- 20. MCWP 3-35.6 Desert Operations
- 21. MCWP 3-41.1 Rear Area Operations
- 22. MCWP 4-1 Logistics Operations
- 23. MCWP 4-11 Tactical-Level Logistics
- 24. MCWP 4-11.5 Seabee Operations in the MAGTF
- 25. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 26. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 27. TB MED 593 Guidelines for Field Waste Management
- 28. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 29. TM 5-820-4 Drainage for Areas Other Than Airfields
- 30. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

#### MATERIAL:

Area topographical map(s)

Reconnaissance report(s)

Environmental impact report(s) (if any)

Camp layout(s) with water source and distribution points indicated

1169-XENG-2558: Plan a field sanitation system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a warning order requiring a base camp(s), map(s), reconnaissance report(s), camp layout(s), any environmental impact report(s), known soil type(s), and references.

**STANDARD:** So requirements of warning order are supported; with sanitation devices/sites drawn on the camp layout(s) and a Course of Action (COA) established; and input provided for Annex D and Appendix 6 to Annex Q of the Operation Order.

#### PERFORMANCE STEPS:

- Review warning order, map(s), reconnaissance report(s), camp layout(s), and references.
- 2. Identify locations of equipment, devices and facilities to be supported/impacted by sanitation requirements.
- 3. Determine soil absorption rates.
- 4. Identify potential impact of weather/climate on sanitation devices.
- 5. Determine amount of waste water that will be generated.
- 6. Determine numbers of sanitation devices/facilities (grease traps, head/latrines, garbage pits, and soakage pits) required.
- 7. Determine environmental impacts.
- Plot sanitation devices/facilities on camp layout(s), making provisions for traffic.
- 9. Determine risks, conducting operational risk assessments.
- 10. Determine number and type of warning signs required.
- 11. Determine camouflage, concealment, and decoy requirements.
- 12. Estimate man-hour requirements, determining number of water support personnel required to support sanitation mission.
- 13. Determine cleaning/inspection/maintenance schedule.
- 14. Estimate logistical support (truck, forklift, etc.) required.
- 15. Establish a Bill of Materials (BOM) including camouflage, environmental, and safety items.
- 16. Generate work request(s) for any required construction.
- 17. Establish a Course of Action (COA).
- 18. Record requirements for input into Annex D and Appendix 6 to Annex Q of the Operation Order.
- 19. Brief sanitation plan (if required).

# PREREQUISITE EVENTS:

1169-XENG-2553 1169-XENG-2555

### RELATED EVENTS:

1120-XENG-2558 1169-XENG-2658 1169-XENG-2758 1169-XENG-2858 1171-XENG-2558

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. ATTP 5-0.1 Commander and Staff Officer Guide
- 3. FM 3-55 Information Collection
- 4. FMFM 7-29 Mountain Operations
- 5. INSTALLATION SOP Installation's Standing Operating Procedures

- 6. MCO 3000.18\_ Marine Corps Force Deployment Planning and Execution (FDP&E) Manual
- 7. MCO 3500.27\_ Operational Risk Management (ORM)
- 8. MCO 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Policy Order
- 9. MCO P5090.2\_ Environmental Compliance and Protection Manual
- 10. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 11. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 12. MCRP 3-17.7F Project Management
- 13. MCRP 3-17.7N Base Camps
- 14. MCRP 3-17B Engineer Forms and Reports
- 15. MCRP 3-35.1D Cold Region Operations
- 16. MCRP 4-11.1D Field Hygiene and Sanitation
- 17. MCRP 4-11.8A Marine Corps Field Feeding Program
- 18. MCRP 4-11B Environmental Considerations
- 19. MCRP 5-12A Operational Terms and Graphics
- 20. MCWP 3-17 Engineering Operations
- 21. MCWP 3-17.4 Engineer Reconnaissance
- 22. MCWP 3-17.7 General Engineering
- 23. MCWP 3-35.5 Jungle Operations
- 24. MCWP 3-35.6 Desert Operations
- 25. MCWP 3-41.1 Rear Area Operations
- 26. MCWP 4-11.5 Seabee Operations in the MAGTF
- 27. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 28. TB MED 593 Guidelines for Field Waste Management
- 29. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 30. TM 5-820-4 Drainage for Areas Other Than Airfields

# SUPPORT REQUIREMENTS:

#### MATERIAL:

Area topographical map(s)

Reconnaissance report(s)

Environmental impact report(s) (if any)

Camp layout(s) with equipment, devices and facilities indicated

1169-XENG-2561: Plan an interior electrical wiring system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With construction plans for a structure, a list of electrical fixtures/appliances to be installed, local code requirements, and references.

**STANDARD:** Per the National Electric Code (NEC) (NFPA 70).

# PERFORMANCE STEPS:

1. Review construction plans, local code and references.

- 2. Review list of electrical fixtures/appliances to be installed.
- 3. Calculate general lighting load.
- 4. Identify power requirements.
- 5. Determine code requirements.
- 6. Size branch circuits.
- 7. Size over current protection devices.
- 8. Plot electrical symbols on construction plans.
- 9. Ensure interior electrical wiring system plan conforms to references and the building's requirements.
- 10. Establish a Bill of Materials (BOM), including safety items.
- 11. Establish a Course of Action (COA).

#### RELATED EVENTS:

1120-XENG-2561 1141-XENG-2561 1169-XENG-2965

1169-XENG-2966

# **REFERENCES:**

- 1. ATTP 5-0.1 Commander and Staff Officer Guide
- 2. FM 5-553 General Drafting
- 3. MCRP 3-17.7F Project Management
- 4. MCRP 3-17.7K Theater of Operations Electrical Systems
- 5. MCRP 3-17.7M Construction Estimating
- 6. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 7. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 8. TM 5-704 Construction Print Reading in the Field
- 9. TM 5-811-1 Electric Power Supply and Distribution
- 10. TM 5-811-3 Electrical Design, Lightning and Static Electricity Protection
- 11. TM 5-811-7 Electrical Design, Cathodic Protection

# SUPPORT REQUIREMENTS:

MATERIAL: Construction plans

1169-XENG-2581: Plan an interior plumbing system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Utilities Chief

**GRADES:** GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With construction plans for a structure, a list of plumbing fixtures to be installed, local code requirements, and references.

STANDARD: Per the Uniform Plumbing Code (UPC).

# PERFORMANCE STEPS:

- 1. Review construction plans, local code, and references.
- 2. Review list of plumbing fixtures/appliances to be installed.
- 3. Identify plumbing symbols.

- 4. Determine code requirements.
- 5. Identify water supply requirements.
- 6. Identify sanitary drainage requirements.
- 7. Identify vent requirements.
- 8. Plot plumbing system/fixtures on construction plans.
- 9. Estimate man-hour requirements.
- 10. Determine risks, conducting operational risk assessments.
- 11. Establish a Bill of Materials (BOM), including safety items.
- 12. Establish a Course of Action (COA).

#### RELATED EVENTS:

1120-XENG-2581 1169-XENG-2988 1169-XENG-2989 1171-XENG-2581

#### **REFERENCES:**

- 1. ATTP 5-0.1 Commander and Staff Officer Guide
- 2. FM 5-553 General Drafting
- 3. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 4. MCRP 3-17.7F Project Management
- 5. MCRP 3-17.7M Construction Estimating
- 6. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 7. TM 5-704 Construction Print Reading in the Field
- 8. UPC (IAPMO/ANSI) Uniform Plumbing Code by International Association of Plumbing and Mechanical Officials/American National Standard Institute

### SUPPORT REQUIREMENTS:

MATERIAL: Construction plans

1169-XENG-2621: Supervise field electrical power generation/distribution system installation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Section SNCOIC, Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, electrical support plan and established Course of Action (COA), camp layout, equipment, personnel, material, and references.

<u>STANDARD</u>: So unit's mission is safely supported in accordance with the Operation Order.

# PERFORMANCE STEPS:

- 1. Review Operation Order, electrical support plan, and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Review equipment technical manuals.
- 5. Brief installation crew.

- 6. Monitor electrical power generation equipment installation.
- 7. Monitor electrical power distribution system installation.
- 8. Inspect installed field electrical power generation/distribution system.
- 9. Inspect equipment/system grounding.
- 10. Correct discrepancies.

# **PREREQUISITE EVENTS:** 1169-XENG-2521

#### RELATED EVENTS:

1141-XENG-2621 1169-XENG-2522 1169-XENG-2622

1169-XENG-2721 1169-XENG-2821

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. FM 3-34.480 Engineer Prime Power Operations
- 3. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 4. MCRP 3-17.7F Project Management
- 5. MCRP 3-17.7K Theater of Operations Electrical Systems
- 6. MCRP 3-17.7N Base Camps
- 7. MCRP 4-11B Environmental Considerations
- 8. MCWP 4-11.5 Seabee Operations in the MAGTF
- 9. TM 5-811-1 Electric Power Supply and Distribution
- 10. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Climber's Set, Tree and Pole (TK-1141/C) [B0069]

Tool Kit, Intermediate Level Electricians (I-Level Tool Kit) (TK-1141/1) [B7900]

Forklift (with capacity to lift generators and distribution panels)

Earthmoving equipment (if required to prepare site(s))

Generator(s) (size and quantity designated by electrical support plan)

Ground Rod(s), GP-16 [H7213] - and/or -

Grounding Kit, MK-2551A/U [H7255]

Power Distribution Panel, Mobile Electric Power Distribution System

Replacement (MEPDIS-R):

5kW Indoor [B0027]

5kW Outdoor [B0028]

15kW [B0029]

30kW [B0030]

100kW [B0031] - and/or -

300kW [B0032] (Sizes and quantities as designated by the electrical support plan)

#### MATERIAL:

Electrical support plan with established Course of Action (COA)

Spill containment materials

Warning signs

Water (if needed)

Metal Plates (if needed)

Chemicals (if needed)
Magnesium sulfate (Epsom salts)
Copper sulfate (blue vitriol)
Calcium chloride
Sodium chloride (common table salt) - or Potassium nitrate (saltpeter)

### UNITS/PERSONNEL:

MOS 1141 (Electrician) (quantity designated by electrical support plan) MOS 1345 (Engineer Equipment Operator) to prepare site(s) and move equipment

### MISCELLANEOUS:

# ADMINISTRATIVE INSTRUCTIONS:

Only licensed Marines (MOS 1141) will install/operate MEPDIS-R Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for system installation

**SPECIAL PERSONNEL CERTS:** Personnel must be licensed MOS 1141 electricians to install and operate MEPDIS-R [B0027, B0028, B0029, B0030, B0031 and B0032].

1169-XENG-2622: Monitor ground test set measurements

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

 $\underline{\text{CONDITION}}$ : At a site supported by an established electrical power generation and distribution system, with a ground test set, test set measurements, and references.

**STANDARD:** So a safe ground for supported personnel and equipment is maintained.

# PERFORMANCE STEPS:

- 1. Review references.
- 2. Determine grounding electrode/system resistance (ohms) to ground requirements for electrical equipment/system.
- 3. Review ground test set measurement reports.
- 4. Identify potential impact of weather (humidity/temperature) on grounding system.
- 5. Direct improvements/upgrades to grounding system as necessary.

#### RELATED EVENTS:

| 1120-XENG-2622 | 1141-XENG-1601 | 1141-XENG-1703 |
|----------------|----------------|----------------|
| 1141-XENG-2622 | 1169-XENG-2521 | 1169-XENG-2522 |
| 1169-XENG-2621 | 1169-XENG-2721 |                |

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. 29 CFR 1910.269 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 269 Electrical Power Generation, Transmission, and Distribution
- 3. MCRP 3-17.7K Theater of Operations Electrical Systems
- 4. MCRP 4-11B Environmental Considerations
- 5. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 6. SL-3-10069A Components List for Ohmmeter (Earth Ground Resistance Tester), Model R1L-C
- 7. SL-3-10139A Components List for Grounding Kit, MK-2551A/U
- 8. SL-3-11509A Components List for Tool Kit, Lineman's Electrician (TK-1141)
- 9. TC 11-6 Grounding Techniques
- 10. TM 10069A-14 Operation and Maintenance Instructions with Illustrated Parts Breakdown for Ground Resistance Ohmmeter Model R1L-C
- 11. TM 11509A-OR Users Manual for Model i1000s AC Current Probe for Oscilloscopes
- 12. TM 11-5820-1118-13&P Operator and Field Maintenance Manual Including Repair Parts and Special Tools List for Grounding Kit, MK-2551A/U
- 13. TM 5-690 Grounding and Bonding in Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) Facilities
- 14. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# **SUPPORT REQUIREMENTS:**

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Tool Kit, Lineman's Electrician (TK-1141) [B0062]
Ground Rod(s), GP-16 [H7213] - and/or Grounding Kit, MK-2551A/U [H7255]
Ohmmeter, Earth Ground Resistance Tester, Model R1L-C [A7059]

# MATERIAL:

Water (if needed)
Metal Plates (if needed)
Chemicals (if needed)
Magnesium sulfate (Epsom salts)
Copper sulfate (blue vitriol)
Calcium chloride
Sodium chloride (common table salt) - or Potassium nitrate (saltpeter)

UNITS/PERSONNEL: MOS 1141 (Electrician)

<u>1169-XENG-2641</u>: Supervise field refrigeration/environmental control equipment set up/installation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

# INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, refrigeration and environmental control support plan and established Course of Action (COA), camp layout, equipment, personnel, material, and references.

<u>STANDARD</u>: So unit's mission is safely supported in accordance with the Operation Order.

#### PERFORMANCE STEPS:

- 1. Review Operation Order, refrigeration and environmental control support plan, and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Review equipment technical manuals.
- 5. Brief installation crew.
- 6. Monitor environmental control unit set up/installation.
- 7. Monitor set up of refrigeration system(s).
- 8. Inspect installed field refrigeration/environmental control equipment.
- 9. Inspect equipment grounding.
- 10. Ensure inspection of refrigeration equipment by preventive medicine personnel.
- 11. Correct discrepancies.

PREREQUISITE EVENTS: 1169-XENG-2541

#### RELATED EVENTS:

1161-XENG-2641 1161-XENG-2642 1169-XENG-2741

1169-XENG-2841

# **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 3. MCRP 3-17.7F Project Management
- 4. MCRP 3-17.7N Base Camps
- 5. MCRP 4-11.8A Marine Corps Field Feeding Program
- 6. MCRP 4-11B Environmental Considerations
- 7. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

#### SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)

Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]

Forklift (with capacity to lift refrigeration/environmental control equipment)

Earthmoving equipment (if required to prepare site(s))

Environmental Control Units (ECU) (Sizes and quantities as designated by the support plan)

Refrigeration systems (Sizes and quantities as designated by the support plan)

#### MATERIAL:

Refrigeration and environmental control support plan with established Course of Action (COA)

Warning signs

#### UNITS/PERSONNEL:

MOS 1345 (Engineer Equipment Operator) to prepare site(s) and move equipment

MOS 1141 (Electrician) to establish electrical power support

MOS 1161 (Refrigeration and Air Conditioning Technician) to set up/install equipment

Preventive Medicine Technician

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for equipment set up/installation.

<u>1169-XENG-2653</u>: Supervise field water purification/storage/distribution system installation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, water support plan and established Course of Action (COA), camp layout, equipment, personnel, material, and references.

**STANDARD:** So unit's mission is safely supported in accordance with the Operation Order.

# PERFORMANCE STEPS:

- 1. Review the Operation Order, water support plan, Water Reconnaissance Report, and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Review equipment technical manuals.
- 5. Brief installation crew.
- 6. Monitor water source development.
- 7. Monitor water purification equipment set up.
- 8. Monitor field water storage equipment set up.
- 9. Monitor field water distribution system installation.
- 10. Inspect installed field water purification/storage/distribution system.
- 11. Inspect equipment grounding.
- 12. Ensure inspection of installed system by preventive medicine personnel.
- 13. Correct discrepancies.

**PREREQUISITE EVENTS:** 1169-XENG-2553

# RELATED EVENTS:

1169-XENG-2655 1169-XENG-2658 1169-XENG-2752 1169-XENG-2753 1169-XENG-2853 1171-XENG-2653

# **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 5. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 6. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 7. MCRP 3-17.7F Project Management
- 8. MCRP 3-17.7N Base Camps
- 9. MCRP 4-11B Environmental Considerations
- 10. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 11. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 12. NAVMED P-5010-5 Manual of Naval Preventive Medicine, Chapter 5, Water Supply Ashore
- 13. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Water Quality Analysis Set, Purification (WQAS-P) [B2630]

Forklift (with capacity to lift designated water support equipment)

Earthmoving equipment (if required to prepare site(s))

Electric power generation and distribution equipment (if required)

Water support equipment as designated by the water support plan

# MATERIAL:

DA Form 1712-R (Water Reconnaissance Report)

Water support plan with established Course of Action (COA)

DA Form 1712-R (Water Reconnaissance Report)

Water Smartcard (see Figure C-3 of MCWP 3-17.4)

Spill containment materials

Warning signs

### UNITS/PERSONNEL:

 ${
m MOS}$  1345 (Engineer Equipment Operator) to prepare site(s) and move Equipment

MOS 1141 (Electrician) to establish electrical power support

MOS 1171 (Water Support Technician) (quantity designated by water support

plan) to set up/install equipment

Preventive Medicine Technician

# MISCELLANEOUS:

# ADMINISTRATIVE INSTRUCTIONS:

Only licensed Marines (MOS 1171) will install/operate water support Equipment

Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for system installation

**SPECIAL PERSONNEL CERTS:** Personnel must be licensed MOS 1171 water support technicians to install and operate water support equipment.

1169-XENG-2655: Supervise field hygiene equipment set up

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, hygiene support plan and established Course of Action (COA), camp layout, equipment, personnel, material, and references.

**STANDARD:** So unit's mission is safely supported in accordance with the Operation Order.

# PERFORMANCE STEPS:

- 1. Review the Operation Order, hygiene support plan, and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Review equipment technical manuals.
- 5. Brief installation crew.
- 6. Monitor set up of field shower facility (if required).
- 7. Monitor set up of laundry unit(s) (if required).
- 8. Monitor set up of M-80/M-85 water heater(s) (if required).
- 9. Inspect set up field hygiene equipment.
- 10. Inspect equipment grounding.
- 11. Ensure inspection of installed equipment by preventive medicine personnel.
- 12. Correct discrepancies.

**PREREQUISITE EVENTS:** 1169-XENG-2555

### RELATED EVENTS:

1120-XENG-2655 1169-XENG-2653 1169-XENG-2658 1169-XENG-2755 1169-XENG-2855 1171-XENG-2655

#### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 3. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 4. MCRP 3-17.7F Project Management
- 5. MCRP 3-17.7N Base Camps
- 6. MCRP 4-11.1D Field Hygiene and Sanitation
- 7. MCRP 4-11B Environmental Considerations

- 8. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 9. TB MED 593 Guidelines for Field Waste Management
- 10. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Forklift (with capacity to lift designated hygiene equipment)
Earthmoving equipment (if required to prepare site(s))
Electric power generation and distribution equipment (if required)
Hygiene equipment as designated by the hygiene support plan

#### MATERIAL:

Hygiene support plan with established Course of Action (COA) Spill containment materials Warning signs

# UNITS/PERSONNEL:

MOS 1345 (Engineer Equipment Operator) to prepare site(s) and move Equipment
MOS 1141 (Electrician) to establish electrical power support
MOS 1171 (Water Support Technician) (quantity designated by hygiene support plan) to set up equipment

Preventive Medicine Technician

# MISCELLANEOUS:

# ADMINISTRATIVE INSTRUCTIONS:

Only licensed Marines (MOS 1171) will install/operate hygiene equipment Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for system installation

<u>SPECIAL PERSONNEL CERTS</u>: Personnel must be licensed MOS 1171 water support technicians to install and operate hygiene equipment.

1169-XENG-2658: Supervise camp sanitation system installation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Utilities Chief

**GRADES:** GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: With an Operation Order, field sanitation plan and established Course of Action (COA), environmental impact report, area map, camp layout, equipment, personnel, material, and references.

**STANDARD:** So unit's mission is safely supported in accordance with the Operation Order.

# PERFORMANCE STEPS:

- 1. Review the Operation Order, field sanitation plan, environmental impact report, and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Brief installation crew.
- 5. Monitor installation of grease traps (if required).
- 6. Monitor installation of head/latrines (if required).
- 7. Monitor installation of garbage pits (if required).
- 8. Monitor installation of soakage pits (if required).
- 9. Inspect installed sanitation system.
- 10. Ensure inspection of installed system by preventive medicine personnel.
- 11. Correct discrepancies.

# **PREREQUISITE EVENTS:** 1169-XENG-2558

### RELATED EVENTS:

| 1120-XENG-2658 | 1169-XENG-2653 | 1169-XENG-2655 |
|----------------|----------------|----------------|
| 1169-XENG-2758 | 1169-XENG-2858 | 1171-XENG-2658 |

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. INSTALLATION SOP Installation's Standing Operating Procedures
- 3. MCO P5090.2 Environmental Compliance and Protection Manual
- 4. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 5. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 6. MCRP 3-17.7F Project Management
- 7. MCRP 3-17.7N Base Camps
- 8. MCRP 4-11.1D Field Hygiene and Sanitation
- 9. MCRP 4-11B Environmental Considerations
- 10. MCWP 3-41.1 Rear Area Operations
- 11. TB MED 593 Guidelines for Field Waste Management
- 12. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment

# SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Earthmoving equipment (if required to prepare site(s))
Equipment designated by the sanitation plan

#### MATERIAL

Sanitation plan with established Course of Action (COA) Material designated by the sanitation plan Warning signs

### UNITS/PERSONNEL:

MOS 1345 (Engineer Equipment Operator) to prepare site(s) MOS 1371 (Combat Engineer) to construct sanitation devices

MOS 1171 (Water Support Technician) (quantity designated by sanitation plan) to install device(s)/develop site(s) Preventive Medicine Technician

OTHER SUPPORT REQUIREMENTS: Marines of any MOS can assist in establishing and maintaining sanitary sites/devices

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for site development.

<u>1169-XENG-2721</u>: Supervise field electrical power generation/distribution system operation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, camp layout, electrical power generation/distribution system, operators, and references.

**STANDARD:** So unit's mission is safely supported in accordance with the Operation Order.

# PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Inspect installed electrical power generation/distribution system.
- 3. Review safety concerns.
- 4. Review environmental concerns.
- 5. Establish operator schedule.
- 6. Brief personnel.
- 7. Supervise operation of generator sets.
- 8. Supervise operation of floodlight sets.
- 9. Supervise operation of load banks.
- 10. Supervise electrical distribution system.
- 11. Ensure electrical loads are balanced.
- 12. Manage electrical power generation/distribution system operator maintenance.
- 13. Ensure records/reports are updated/completed.

### PREREQUISITE EVENTS:

1169-XENG-2621 1169-XENG-2622

# RELATED EVENTS:

| 1120-XENG-2721 | 1141-XENG-2721 | 1169-ADMN-2073 |
|----------------|----------------|----------------|
| 1169-XENG-2521 | 1169-XENG-2741 | 1169-XENG-2753 |
| 1169-XENG-2755 | 1169-XENG-2758 |                |

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCRP 3-17.7K Theater of Operations Electrical Systems
- 3. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 4. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures
- 6. TM 5-811-1 Electric Power Supply and Distribution
- 7. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

### SUPPORT REQUIREMENTS:

<u>1169-XENG-2741</u>: Supervise field refrigeration/environmental control equipment operation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, camp layout, refrigeration/environmental control equipment, personnel, and references.

**STANDARD:** So unit's mission is safely supported in accordance with the Operation Order.

# PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Inspect installed refrigeration/air conditioning equipment.
- 3. Review safety concerns.
- 4. Review environmental concerns.
- 5. Establish maintenance schedule.
- 6. Brief personnel.
- 7. Supervise operation of air conditioning equipment.
- 8. Supervise operation of refrigeration units.
- 9. Manage refrigeration/air conditioning equipment operator maintenance.
- 10. Ensure records/reports are updated/completed.

PREREQUISITE EVENTS: 1169-XENG-2641

# RELATED EVENTS:

| 1120-XENG-2741 | 1161-XENG-2741 | 1169-ADMN-2073 |
|----------------|----------------|----------------|
| 1169-XENG-2541 | 1169-XENG-2721 | 1169-XENG-2753 |
| 1169-XENG-2755 | 1169-XENG-2758 |                |

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. SL-3-11502A Components List for Cooling and Refrigeration Expeditionary Kit (CREK)
- 3. SL-3-11574A Components List for Large Field Refrigeration System
- 4. SL-3-11609A Components List for Small Field Refrigeration System
- 5. SL-3-4120 Components List for Family of Environmental Control Units
- 6. TM 12359A-OD Principal Technical Characteristics of Expeditionary Power Systems Equipment
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures
- 8. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

UNITS/PERSONNEL: MOS 1161 (Refrigeration and Air Conditioning Technicians)
to maintain equipment

1169-XENG-2752: Monitor water test equipment measurements

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With water test measurement reports, equipment, personnel, and references.

**STANDARD:** So continuous safety of unit's potable water supply is maintained per NAVMED P-5010-10.

# PERFORMANCE STEPS:

- 1. Review references.
- 2. Review test measurement reports.
- 3. Have water tested.
- 4. Ensure measurements are within standards.
- 5. Take necessary actions to improve product water quality, disabling any PMT in the area.

### RELATED EVENTS:

1120-XENG-2752 1169-XENG-2753 1171-XENG-2752

#### REFERENCES:

- 1. FM 10-52 Water Supply in Theaters of Operation
- 2. FM 10-52-1 Water Supply Point Equipment and Operations
- 3. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 4. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 5. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 6. TM 10-6630-222-12&P Operator and Unit Maintenance Manual (Including Repair

Parts and Special Tools List) for Water Quality Analysis Set: Purification (WQAS-P)

- 7. TM 5-813-3 Water Supply, Water Treatment
- 8. TM 5-813-4 Water Supply, Water Storage
- 9. TM 5-813-5 Water Supply, Water Distribution

#### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Water Quality Analysis Set, Purification (WQAS-P) [B2630]

MATERIAL: Water test measurement reports

UNITS/PERSONNEL: MOS 1171 (Water Support Technician) to test water

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Graduates of the Basic Water Support Technician Course (CID: M031102) are licensed operators of the Water Quality Analysis Set, Purification (WQAS-P) [B2630]

**SPECIAL PERSONNEL CERTS:** Operators of the Water Quality Analysis Set, Purification (WQAS-P) [B2630] must be licensed.

<u>1169-XENG-2753</u>: Supervise field water purification/storage/distribution system operation

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: With an Operation Order, camp layout, water purification/storage/distribution system, operators, and references.

 $\underline{\mathtt{STANDARD}}$ : So unit's mission is safely supported in accordance with the Operation Order.

### PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Inspect installed water purification/storage/distribution system.
- 3. Review safety concerns.
- 4. Review environmental concerns.
- 5. Establish operator schedule.
- 6. Brief personnel.
- 7. Supervise operation of water purification equipment.
- 8. Supervise operation of water storage/distribution system.
- 9. Supervise operation of Forward Area Water Point Supply Systems.
- 10. Supervise operation of SIXCON module systems.

- 11. Supervise operation of water pump assemblies.
- 12. Supervise use of collapsible tanks and bladders.
- 13. Ensure water quantity and quality meet requirements.
- 14. Ensure all water production reports and logs are completed and submitted.
- 15. Manage water purification/storage/distribution equipment operator maintenance.
- 16. Ensure records/reports are updated/completed.

#### PREREQUISITE EVENTS:

1169-XENG-2653 1169-XENG-2752

### RELATED EVENTS:

| 1120-XENG-2753 | 1169-ADMN-2073 | 1169-XENG-2553 |
|----------------|----------------|----------------|
| 1169-XENG-2721 | 1169-XENG-2741 | 1169-XENG-2755 |
| 1169-XENG-2758 | 1171-XENG-2753 |                |

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 5. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 8. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 9. NAVMED P-5010-5 Manual of Naval Preventive Medicine, Chapter 5, Water Supply Ashore
- 10. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 11. TM 4700-15/1\_ Ground Equipment Record Procedures
- 12. TM 5-813-1 Water Supply, Sources and General Considerations
- 13. TM 5-813-3 Water Supply, Water Treatment
- 14. TM 5-813-4 Water Supply, Water Storage
- 15. TM 5-813-5 Water Supply, Water Distribution
- 16. TM 5-813-7 Water Supply for Special Projects
- 17. TM 5-813-8 Water Desalination
- 18. TM 5-813-9 Water Supply, Pumping Stations
- 19. TM 5-820-4 Drainage for Areas Other Than Airfields

# SUPPORT REQUIREMENTS:

<u>UNITS/PERSONNEL</u>: MOS 1171 (Water Support Technicians) to operate/maintain equipment and system

1169-XENG-2755: Supervise field hygiene equipment operation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

# INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, camp layout, hygiene equipment, operators, and references.

**STANDARD:** So unit's mission is safely supported in accordance with the Operation Order.

#### PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Inspect installed hygiene equipment.
- 3. Review safety concerns.
- 4. Review environmental concerns.
- 5. Establish operator schedule.
- 6. Brief personnel.
- 7. Supervise operation of laundry units.
- 8. Supervise operation of shower facilities.
- 9. Supervise operation of water heaters.
- 10. Ensure drainage system is functioning properly.
- 11. Ensure daily sanitation standards are met.
- 12. Manage hygiene equipment operator maintenance.
- 13. Ensure records/reports are updated/completed.

### PREREQUISITE EVENTS:

1169-XENG-2655 1169-XENG-2658

#### RELATED EVENTS:

| 1120-XENG-2755 | 1169-ADMN-2073 | 1169-XENG-2555 |
|----------------|----------------|----------------|
| 1169-XENG-2721 | 1169-XENG-2741 | 1169-XENG-2753 |
| 1169-XENG-2758 | 1171-XENG-2755 |                |

# REFERENCES:

- 1. Appropriate Technical Manuals
- 2. INSTALLATION SOP Installation's Standing Operating Procedures
- 3. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 4. MCRP 4-11.1D Field Hygiene and Sanitation
- 5. MCRP 4-11B Environmental Considerations
- 6. TB MED 593 Guidelines for Field Waste Management
- 7. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 8. TM 4700-15/1\_ Ground Equipment Record Procedures
- 9. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

#### SUPPORT REQUIREMENTS:

UNITS/PERSONNEL: MOS 1171 (Water Support Technicians) to operate/maintain
equipment

1169-XENG-2758: Supervise camp sanitation system operation

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, camp layout, camp sanitation system, personnel, and references.

STANDARD: So unit's mission is safely supported in accordance with the Operation Order.

#### PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Inspect components of the camp sanitation system.
- 3. Review safety concerns.
- 4. Review environmental concerns.
- 5. Coordinate with Preventive Medicine.
- 6. Monitor operation of camp sanitation system.
- 7. Identify components needing cleaning/repair/closure.
- 8. Brief personnel.
- 9. Monitor system maintenance.

#### PREREQUISITE EVENTS:

1169-XENG-2655 1169-XENG-2658

# RELATED EVENTS:

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. INSTALLATION SOP Installation's Standing Operating Procedures
- 3. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 4. MCRP 3-17.7N Base Camps
- 5. MCRP 4-11.1D Field Hygiene and Sanitation
- 6. MCRP 4-11B Environmental Considerations
- 7. MCWP 3-41.1 Rear Area Operations
- 8. TB MED 593 Guidelines for Field Waste Management
- 9. TM 5-820-4 Drainage for Areas Other Than Airfields

# **SUPPORT REQUIREMENTS:**

UNITS/PERSONNEL: MOS 1171 (Water Support Technicians) to operate/maintain
system

<u>1169-XENG-2821</u>: Supervise field electrical power generation/distribution system recovery

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

# INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, camp layout, equipment, personnel, and references

**STANDARD:** So equipment is available for redeployment and equipment records are updated.

#### PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Brief recovery crew.
- 5. Supervise distribution system recovery.
- 6. Supervise generator recovery.
- 7. Ensure Limited Technical Inspections (LTI) are conducted/recorded.
- 8. Ensure SL-3/BII inventories are conducted/recorded.
- 9. Resolve discrepancies.

# RELATED EVENTS:

| 1120-XENG-2821 | 1141-XENG-2821 | 1169-ADMN-2007 |
|----------------|----------------|----------------|
| 1169-ADMN-2073 | 1169-XENG-2621 | 1169-XENG-2721 |
| 1169-XENG-2841 | 1169-XENG-2853 | 1169-XENG-2855 |
| 1169-XENG-2858 |                |                |

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCRP 4-11.4A Recovery and Battle Damage Assessment and Repair
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures
- 4. TM 9-6115-624-BD Battlefield Damage Assessment and Repair for Generators

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Climber's Set, Tree and Pole (TK-1141/C) [B0069]

Tool Kit, Intermediate Level Electricians (I-Level Tool Kit) (TK-1141/1)

Forklift (with capacity to lift generators and distribution panels)

### MATERIAL:

Electrical support plan with established Course of Action (COA) Spill containment materials

### UNITS/PERSONNEL:

MOS 1141 (Electrician) (quantity designated by electrical support plan) MOS 1345 (Engineer Equipment Operator) to move equipment

<u>1169-XENG-2841</u>: Supervise field refrigeration/environmental control equipment recovery

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EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, camp layout, equipment, personnel, and references.

**STANDARD:** So equipment is available for redeployment and equipment records are updated.

#### PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Brief recovery crew.
- 5. Supervise refrigeration equipment recovery.
- 6. Supervise recovery of Environmental Control Units.
- 7. Ensure Limited Technical Inspections (LTI) are conducted/recorded.
- 8. Ensure SL-3/BII inventories are conducted/recorded.
- 9. Resolve discrepancies.

#### **RELATED EVENTS:**

| 1120-XENG-2841 | 1169-ADMN-2007 | 1169-ADMN-2065 |
|----------------|----------------|----------------|
| 1169-ADMN-2073 | 1169-XENG-2621 | 1169-XENG-2741 |
| 1169-XENG-2821 | 1169-XENG-2853 | 1169-XENG-2855 |
| 1169-XENG-2858 |                |                |

# REFERENCES:

- 1. MCRP 4-11.4A Recovery and Battle Damage Assessment and Repair
- 2. SL-3-11502A Components List for Cooling and Refrigeration Expeditionary Kit (CREK)
- 3. SL-3-11574A Components List for Large Field Refrigeration System
- 4. SL-3-11609A Components List for Small Field Refrigeration System
- 5. SL-3-4120 Components List for Family of Environmental Control Units
- 6. TM 11502A-OI User's Manual for Cooling and Refrigeration Expeditionary Kit (CREK)
- 7. TM 11574A-OI Operation and Unit Maintenance Instructions with Illustrated Parts Breakdown for Large Field Refrigeration System
- 8. TM 11609A-OI Operation and Unit Maintenance Instructions with Illustrated Parts Breakdown for Small Field Refrigeration System
- 9. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Cooling and Refrigeration Expeditionary Kit (CREK) [B0061]
Forklift (with capacity to lift equipment)

MATERIAL: Refrigeration and environmental control support plan with

established Course of Action (COA)

### UNITS/PERSONNEL:

MOS 1141 (Electrician) to disconnect electrical power

MOS 1161 (Refrigeration and Air Conditioning Technician) (quantity

designated by support plan)

MOS 1345 (Engineer Equipment Operator) to move equipment

<u>1169-XENG-2853</u>: Supervise field water purification/storage/distribution system recovery

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, camp layout, equipment, personnel, and references.

**STANDARD:** So equipment is available for redeployment and equipment records are updated.

### PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Brief recovery crew.
- 5. Supervise recovery of water purification equipment.
- 6. Supervise water storage equipment recovery.
- 7. Supervise water distribution equipment recovery.
- 8. Ensure Limited Technical Inspections (LTI) are conducted/recorded.
- 9. Ensure SL-3/BII inventories are conducted/recorded.
- 10. Resolve discrepancies.

#### RELATED EVENTS:

| 1120-XENG-2853 | 1169-ADMN-2007 | 1169-ADMN-2065 |
|----------------|----------------|----------------|
| 1169-ADMN-2073 | 1169-XENG-2653 | 1169-XENG-2753 |
| 1169-XENG-2821 | 1169-XENG-2841 | 1169-XENG-2855 |
| 1169-XENG-2858 | 1171-XENG-2853 |                |

#### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCRP 4-11.4A Recovery and Battle Damage Assessment and Repair
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]

Forklift (with capacity to lift water support equipment)

MATERIAL: Water support plan with established Course of Action (COA)

# UNITS/PERSONNEL:

MOS 1171 (Water Support Technician) (quantity designated by water support plan)

MOS 1345 (Engineer Equipment Operator) to move equipment

1169-XENG-2855: Supervise field hygiene equipment recovery

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, camp layout, equipment, personnel, and references.

**STANDARD:** So equipment is available for redeployment and equipment records are updated.

# PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Brief recovery crew.
- 5. Supervise shower facility recovery.
- 6. Supervise laundry unit recovery.
- 7. Ensure Limited Technical Inspections (LTI) are conducted/recorded.
- 8. Ensure SL-3/BII inventories are conducted/recorded.
- 9. Resolve discrepancies.

# RELATED EVENTS:

| 1120-XENG-2855 | 1169-ADMN-2007 | 1169-ADMN-2065 |
|----------------|----------------|----------------|
| 1169-ADMN-2073 | 1169-XENG-2655 | 1169-XENG-2755 |
| 1169-XENG-2821 | 1169-XENG-2841 | 1169-XENG-2853 |
| 1169-XENG-2858 | 1171-XENG-2855 |                |

### **REFERENCES:**

- 1. MCRP 4-11.4A Recovery and Battle Damage Assessment and Repair
- 2. SL-3-01034 Components List for Tank, Fabric, Collapsible, Water Storage, 3,000 Gallon
- 3. SL-3-10006A Components List for Bath Shower Unit, Expedition
- 4. TM 01034E-12&P/1 Operator's and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Tank, Fabric, Collapsible, Water Storage, 3,000 Gallons
- 5. TM 10006A-14&P/14 Erection, Operation, Storage, Inspection and Maintenance Instructions with Illustrated Parts Breakdown for Shower Facility, Bare Base

- 6. TM 10-4520-259-13&P Operator's, Unit and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Heater, Water, Liquid Fuel, Models M-80 and M-85
- 7. TM 10-4630-206-12&P Operator and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Sewage Ejection Pump (SEP)
- 8. TM 11413A-0I/1 Operator/Maintenance Manual Instructions with Repair Parts and Special Tools List (RPSTL) for Containerized Batch Laundry
- 9. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Forklift (with capacity to lift hygiene equipment)

MATERIAL: Hygiene support plan with established Course of Action (COA)

#### UNITS/PERSONNEL:

MOS 1171 (Water Support Technician) (quantity designated by hygiene support plan)

MOS 1345 (Engineer Equipment Operator) to move equipment

1169-XENG-2858: Supervise camp sanitation system recovery/closure

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, environmental impact report, area map, camp layout, equipment, personnel, and references.

**STANDARD:** So reusable devices are recovered and waste areas are covered, marked, and recorded.

# PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Review safety requirements.
- 3. Review environmental impact report and area map.
- 4. Inspect sanitation system.
- 5. Brief recovery/closure crew.
- 6. Supervise recovery of sanitation devices/warning signs.
- 7. Supervise closure of sanitation pits.
- 8. Ensure closed sanitation sites are marked.
- 9. Inspect closed/marked sanitation system.
- 10. Ensure inspection of closed/marked system by preventive medicine personnel.
- 11. Ensure closed latrine sites are recorded on area map.
- 12. Forward marked map to those concerned.

## RELATED EVENTS:

| 1120-XENG-2858 | 1169-XENG-2658 | 1169-XENG-2758 |
|----------------|----------------|----------------|
| 1169-XENG-2821 | 1169-XENG-2841 | 1169-XENG-2853 |
| 1169-XENG-2855 | 1171-XENG-2858 |                |

#### **REFERENCES:**

- 1. INSTALLATION SOP Installation's Standing Operating Procedures
- 2. MCRP 4-11.1D Field Hygiene and Sanitation
- 3. MCRP 4-11B Environmental Considerations
- 4. TB MED 593 Guidelines for Field Waste Management

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Earthmoving equipment (to cover sanitation pits)

### MATERIAL:

Area map

Environmental impact report

Field sanitation plan with established Course of Action (COA)

<u>UNITS/PERSONNEL</u>: MOS 1345 (Engineer Equipment Operator) for earth moving requirements

OTHER SUPPORT REQUIREMENTS: Marines of any MOS can assist in recovery and closure of sanitation devices/pits

## MISCELLANEOUS:

## ADMINISTRATIVE INSTRUCTIONS:

Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for site closure

A map/diagram of closed site(s) should be forwarded to higher headquarters per Installation's SOP

<u>1169-XENG-2965</u>: Supervise interior electrical wiring system installation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1169

BILLETS: Utilities Chief

**GRADES:** GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: At a structure requiring electrical work, with an interior electrical plan, a Bill of Materials (BOM), personnel, tools, and references.

STANDARD: So structure is wired per the interior electrical plan, in

compliance with the National Electric Code (NEC) (NFPA 70).

### PERFORMANCE STEPS:

- 1. Review blueprints, electrical plan and Bill of Materials (BOM).
- 2. Determine safety/code requirements.
- 3. Brief installation crew.
- 4. Inventory BOM.
- 5. Supervise wire runs (and conduit installation, if applicable).
- 6. Supervise installation of devices/fixtures.
- 7. Check service equipment.
- 8. Test the installed electrical wiring system.

#### RELATED EVENTS:

1120-XENG-2965 1141-XENG-2965 1169-XENG-2561 1169-XENG-2966

#### **REFERENCES:**

- 1. MCRP 3-17.7K Theater of Operations Electrical Systems
- 2. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 3. TM 5-704 Construction Print Reading in the Field
- 4. TM 5-811-1 Electric Power Supply and Distribution
- 5. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

## SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Tool Kit, Intermediate Level Electrician's (TK-1141/1) [B7900]

MATERIAL: Bill of Materials (BOM)

UNITS/PERSONNEL: MOS 1141 (Electrician)

1169-XENG-2966: Supervise interior electrical wiring system repairs

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Utilities Chief

**GRADES:** GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: At a structure with a faulty electrical system, a report detailing specific repairs to be made, a Bill of Materials (BOM), tools, and references.

**STANDARD:** So repairs detailed on the report are made and system is brought into compliance with the National Electric Code (NEC) (NFPA 70).

### PERFORMANCE STEPS:

- 1. Examine interior electrical wiring system needing repairs.
- 2. Identify ELECTROCUTION HAZARD(S).
- 3. Review references, determining safety/code requirements.
- 4. Assess risks (ORM).
- 5. Review blueprints, electrical plan and Bill of Materials (BOM).
- 6. Brief repair crew.
- 7. Inventory BOM.
- 8. Ensure hazardous energy is controlled (Lockout/Tagout).
- 9. Supervise wire repairs (and conduit repairs, if applicable).
- 10. Supervise replacement of defective devices/fixtures.
- 11. Check service equipment.
- 12. Test the repaired electrical wiring system.

### PREREQUISITE EVENTS:

1169-ADMN-2001 1169-ADMN-2002

### RELATED EVENTS:

1120-XENG-2966 1141-XENG-2966 1169-XENG-2561 1169-XENG-2965

### **REFERENCES:**

- 1. MCRP 3-17.7F Project Management
- 2. MCRP 3-17.7K Theater of Operations Electrical Systems
- 3. NEC (NFPA 70) National Electrical Code by National Fire Protection Association
- 4. TC 11-6 Grounding Techniques
- 5. TM 5-690 Grounding and Bonding in Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR) Facilities
- 6. TM 5-704 Construction Print Reading in the Field
- 7. TM 5-811-1 Electric Power Supply and Distribution
- 8. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Tool Kit, Lineman's Electrician (TK-1141) [B0062]

Tool Kit, Intermediate Level Electrician's (TK-1141/1) [B7900]

MATERIAL: Bill of Materials (BOM)

UNITS/PERSONNEL: MOS 1141 (Electrician)

1169-XENG-2988: Supervise interior plumbing system installation

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**BILLETS:** Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

## INITIAL TRAINING SETTING: MOJT

**CONDITION:** At a structure requiring plumbing, with an interior plumbing system plan, Bill of Materials (BOM), personnel, tools, and references.

**STANDARD:** So structure has plumbing per the interior plumbing plan, in compliance with the Uniform Plumbing Code (UPC) (IAPMO/ANSI).

### PERFORMANCE STEPS:

- 1. Review the blueprints, plumbing plan and Bill of Materials (BOM).
- 2. Determine safety/code requirements.
- 3. Brief installation crew.
- 4. Inventory BOM.
- 5. Supervise installation of water supply system.
- 6. Supervise installation of sanitary drainage system.
- 7. Supervise installation of vent system.
- 8. Supervise installation of fixtures.
- 9. Test the installed plumbing system.

### RELATED EVENTS:

1120-XENG-2988 1169-XENG-2581 1169-XENG-2989 1171-XENG-2988

### **REFERENCES:**

- 1. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 2. MCRP 3-17.7F Project Management
- 3. TM 5-704 Construction Print Reading in the Field
- 4. UPC (IAPMO/ANSI) Uniform Plumbing Code by International Association of Plumbing and Mechanical Officials/American National Standard Institute

### SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE) Plumbing tools

MATERIAL: Bill of Materials (BOM)

UNITS/PERSONNEL: MOS 1171 (Water Support Technician)

1169-XENG-2989: Supervise interior plumbing system repairs

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Utilities Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** At a structure with a faulty plumbing system, a report detailing specific repairs to be made, a Bill of Materials (BOM), tools, and references.

<u>STANDARD</u>: So repairs detailed on the report are made and system is brought into compliance with the Uniform Plumbing Code (UPC) (IAPMO/ANSI).

### PERFORMANCE STEPS:

- 1. Examine plumbing system needing repairs.
- 2. Review references, determining safety/code requirements.
- 3. Assess risks (ORM).
- 4. Review blueprints, plumbing plan and Bill of Materials (BOM).
- 5. Brief repair crew.
- 6. Inventory BOM.
- 7. Supervise repairs to water supply system.
- 8. Supervise repairs to sanitary drainage system.
- 9. Supervise repairs to vent system.
- 10. Supervise replacement of fixtures.
- 11. Test the repaired plumbing system.

**PREREQUISITE EVENTS:** 1169-ADMN-2001

### RELATED EVENTS:

1120-XENG-2989 1169-XENG-2581 1169-XENG-2988 1171-XENG-2989

### **REFERENCES:**

- 1. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 2. MCRP 3-17.7F Project Management
- 3. TB SIG 222 Solder and Soldering
- 4. TM 5-704 Construction Print Reading in the Field
- 5. UPC (IAPMO/ANSI) Uniform Plumbing Code by International Association of Plumbing and Mechanical Officials/American National Standard Institute

### SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE) Plumbing tools

MATERIAL: Bill of Materials (BOM)

UNITS/PERSONNEL: MOS 1171 (Water Support Technician)

# ENG & UTIL T&R MANUAL

# CHAPTER 12

## MOS 1171 INDIVIDUAL EVENTS

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### ENG & UTIL T&R MANUAL

### CHAPTER 12

### MOS 1171 INDIVIDUAL EVENTS

- 12000. PURPOSE. This chapter details the individual events that pertain to the Water Support Technician. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful.
- 12001. EVENT CODING. Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX. This chapter utilizes the following methodology
- a. Field one. This field represents the community. This chapter contains the following community codes:
- b. Field two. This field represents the functional/duty area. This chapter contains the following functional/duty areas:
  - Code Description
    ADMN Administration
    MANT Maintenance
    XENG General Engineering
  - c. Field three.
- (1) The first digit of this field provides the level at which the event is accomplished. The following event levels are used:
  - Code 1000 Description Core Skills
    2000 Core Plus Skills
- (2) As the Task Analyst/Advocate has deemed appropriate the second digit of this field represents a sub-function to that duty area identified in field two. The following sub-functions are used in this chapter:
  - Description Code XX0XAdministrative X1XX Miscellaneous maintenance functions X2XX Preventive Maintenance Checks and Services X3XX Diagnosing equipment malfunctions X4XX Repairing equipment X5XX Planning Equipment set up хбхх X7XX Equipment operation

- X8XX Equipment recovery
- X9XX Electrician/Plumber (tradesman) duty based on requirements in the National Electrical Code (NEC) or Uniform Plumbing Code (UPC), etc.
- (3) The last two digits of this field are used to identify and categorize like events or equipment across all MOSs of the 1100 OccFld (see Chapters 7 through 12), or are just numerical sequencing of events. Following are **some** examples of the categories used:

| Code | Description                                                  |
|------|--------------------------------------------------------------|
| X002 | Core and Core Plus Skills related to controlling hazardous   |
|      | energy. See: 1120-ADMN-2002, 1141-ADMN-1002, 1142-ADMN-1002, |
|      | 1161-ADMN-1002, 1169-ADMN-2002 and 1171-ADMN-1002.           |

- X012 Core and Core Plus Skills related to NAVMC 10772 initiation, validation and submission. See: 1120-ADMN-2012, 1141-ADMN-1012, 1142-ADMN-1012, 1161-ADMN-1012, 1169-ADMN-2012 and 1171-ADMN-1012.
- 1X33 Core Skills related to the Lightweight Water Purification System. See: 1171-MANT-1233, 1171-MANT-1333, 1171-MANT-1433 and 1171-XENG-1733.
- 2023 Core Plus advanced level MOS training program functions. See: 1120-ADMN-2023, 1141-ADMN-2023, 1142-ADMN-2023, 1161-ADMN-2023, 1169-ADMN-2023 and 1171-ADMN-2023.
- 206X Core Plus advanced level supply support functions.
  See: 1120-ADMN-2061, 1120-ADMN-2062, 1120-ADMN-2063, 1120-ADMN-2064, 1120-ADMN-2065, 1141-ADMN-2061, 1141-ADMN-2062, 1142-ADMN-2061, 1142-ADMN-2062, 1161-ADMN-2061, 1161-ADMN-2062, 1169-ADMN-2061, 1169-ADMN-2062, 1169-ADMN-2063, 1169-ADMN-2064, 1169-ADMN-2065, 1171-ADMN-2061 and 1171-ADMN-2062.
- 2X58 Core Plus Skills related to field sanitation. See: 1120-XENG-2558, 1120-XENG-2658, 1120-XENG-2758, 1120-XENG-2858, 1169-XENG-2558, 1169-XENG-2658 1169-XENG-2758, 1169-XENG-2858, 1171-XENG-2558 1171-XENG-2658 and 1171-XENG-2858.

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### 12003. 1000-LEVEL EVENTS

1171-ADMN-1001: Conduct an Operational Risk Assessment (ORA)

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**BILLETS:** Water Support Technician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With a task/mission, a Risk Management Worksheet, and references.

**STANDARD:** So task/mission effectiveness is increased while loss of personnel and materiel is minimized through the use of risk management controls.

# PERFORMANCE STEPS:

- 1. Identify task/mission requirements.
- 2. Review references.
- 3. Identify hazards, recording them on Risk Management Worksheet.
- 4. Assess severity and probability of hazards to determine risk levels.
- 5. Develop risk control measures.
- 6. Make risk decisions and/or forward Risk Management Worksheet to supervisor

for decision/approval.

7. Implement controls.

### RELATED EVENTS:

1141-ADMN-1001 1142-ADMN-1001 1161-ADMN-1001

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO 3500.27 Operational Risk Management (ORM)

### SUPPORT REQUIREMENTS:

MATERIAL: Risk Management Worksheet.

1171-ADMN-1002: Control (Lockout/Tagout) hazardous energy

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment, equipment manuals, Lockout/Tagout devices, forms, and references.

**STANDARD:** So equipment is locked out or tagged out to protect against accidental or inadvertent start-up, or operation that may cause injury to personnel performing maintenance, service, repair, or modification to the equipment.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Locate all energy isolating devices and hazardous energy sources (NOTE: there may be more than one).
- 3. Obtain required number of Lockout/Tagout devices from program coordinator.
- 4. Notify all effected personnel and supervisors.
- 5. Don Personal Protective Equipment (PPE).
- 6. Shut down equipment/turn off circuit.
- 7. Dissipate or restrain any stored energy.
- 8. Apply Lockout/Tagout devices.
- 9. Verify energy is isolated/dissipated (test circuit).
- 10. Effect required service, maintenance, repairs or modifications to equipment/circuit.
- 11. Remove Lockout/Tagout devices.
- 12. Restore equipment/circuit to normal operation.
- 13. Return Lockout/Tagout devices to program coordinator.

PREREQUISITE EVENTS: 1171-ADMN-1001

# RELATED EVENTS:

1141-ADMN-1002 1142-ADMN-1002 1161-ADMN-1002

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- NAVMC DIR 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Program Manual
- 3. UNIT SOP Unit's Standing Operating Procedures

## SUPPORT REQUIREMENTS:

**EQUIPMENT:** Personal Protective Equipment (PPE)

#### MATERIAL:

Lockout/Tagout devices

NAVMC 11403 (Lockout/Tagout Checklist)

UNITS/PERSONNEL: Lockout/Tagout Program Coordinator

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: NAVMC Dir 5100.8, Chapter 12, provides detailed information for this event.

1171-ADMN-1003: Recover an electric shock victim

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a situation and without references.

STANDARD: So danger to personnel is eliminated and victim is cared for.

# PERFORMANCE STEPS:

- 1. Evaluate situation.
- 2. Send for help.
- 3. Provide for personal protection.
- 4. Isolate victim from electrical source.
- 5. Evaluate victim.
- 6. Start artificial resuscitation (if necessary).
- 7. Remain with victim until medical help arrives.
- 8. Report incident.

#### RELATED EVENTS:

1120-ADMN-2003 1141-ADMN-1003 1142-ADMN-1003 1161-ADMN-1003 1169-ADMN-2003

### **REFERENCES:**

- 1. MCRP 3-02G First Aid
- 2. MCRP 3-17.7K Theater of Operations Electrical Systems

- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 4. TM 2000-15/4 Power System Reference Manual
- 5. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

### SUPPORT REQUIREMENTS:

## MATERIAL:

Ropes

Brooms, mops or tree branches

1171-ADMN-1004: Respond to a hazardous materials spill

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a situation and without references.

STANDARD: So the spill is contained, reported, and cleaned up.

### PERFORMANCE STEPS:

- 1. Evacuate immediate area (if necessary).
- 2. Provide for personal protection.
- 3. Contain spill.
- 4. Report spill.
- 5. Remove uncontaminated material.
- 6. Dispose of hazardous material.

## RELATED EVENTS:

1120-ADMN-2004 1141-ADMN-1004 1142-ADMN-1004 1161-ADMN-1004

### **REFERENCES:**

- 1. INSTALLATION SOP Installation's Standing Operating Procedures
- 2. MCO 4450.12\_ Storage and Handling of Hazardous Materials
- 3. MCO P5090.2\_ Environmental Compliance and Protection Manual
- 4. MCRP 4-11B Environmental Considerations

### SUPPORT REQUIREMENTS:

MATERIAL: Spill containment kit

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: MCO 4450.12A, Chapter 7 and MCRP 4-11B, Appendix J, Tab A provide detailed information for this event.

1171-ADMN-1005: Administer first aid for chemical ingestion/contact

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a situation and Material Safety Data Sheets (MSDS).

**STANDARD:** So effect of the chemical is mitigated and victim is cared for per the MSDS and MCRP 3-02G.

### PERFORMANCE STEPS:

- 1. Protect yourself and other personnel.
- 2. Send for help.
- 3. Review Material Safety Data Sheet (MSDS).
- 4. Provide for personal protection (if required).
- 5. Give first aid.
- 6. Remain with victim until medical help arrives.
- 7. Report incident.

### RELATED EVENTS:

1120-ADMN-2005 1141-ADMN-1005 1142-ADMN-1005 1161-ADMN-1005

#### **REFERENCES:**

1. MCRP 3-02G First Aid

## SUPPORT REQUIREMENTS:

MATERIAL: Material Safety Data Sheet (MSDS) file

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: MCRP 3-02G, Chapter 7 provides detailed information for this event.

<u>1171-ADMN-1006</u>: Obtain equipment publications

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With a tasking, equipment, and references.

STANDARD: So appropriate publication(s) are used with corresponding

equipment.

### PERFORMANCE STEPS:

- 1. Determine/record equipment National Stock Number (NSN).
- 2. Determine/record equipment Model Number.
- 3. Determine/record equipment Identification Number.
- 4. Ascertain section's authorized echelon of maintenance.
- 5. Identify publications that are published/available for equipment.
- 6. Check required publications out of section's Publication Library.

### RELATED EVENTS:

1141-ADMN-1006 1142-ADMN-1006 1161-ADMN-1006

#### REFERENCES:

- 1. MCO P4790.2\_ MIMMS Field Procedures Manual
- 2. MCO P5215.17\_ The Marine Corps Technical Publications System 3. SL-1-2/SL-1-3 Index of Publications Stocked by the USMC
- 4. UNIT SOP Unit's Standing Operating Procedures

### SUPPORT REQUIREMENTS:

OTHER SUPPORT REQUIREMENTS: Internet access, with a CAC card, may be required to complete this event at some units.

### **MISCELLANEOUS:**

ADMINISTRATIVE INSTRUCTIONS: Additional information to assist or increase personal knowledge for this event is contained in MCI 0416B - The Marine Corps Publications and Directives System.

1171-ADMN-1007: Conduct an SL-3 Components List/Basic Issue Items (BII) inventory

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment and references.

STANDARD: So accountability of all components is validated per the SL-3/BII list and TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Obtain Components List (SL-3 or TM listing Basic Issue Items [BII]) for
- 3. Identify each component using the SL-3/BII.
- 4. Identify missing components.
- 5. Identify unserviceable components.

- 6. Document inventory results.
- 7. Report any inventory discrepancies and unserviceable components.

PREREQUISITE EVENTS: 1171-ADMN-1006

RELATED EVENTS:

1141-ADMN-1007 1142-ADMN-1007 1161-ADMN-1007

#### REFERENCES:

1. Appropriate Technical Manuals

- 2. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 3. SI 10510-OR/1 Tool Warranty/Replacement Instructions for Using the USMC ServMart
- 4. TM 4700-15/1 Ground Equipment Record Procedures
- 5. UNIT SOP Unit's Standing Operating Procedures

## SUPPORT REQUIREMENTS:

MATERIAL: SL-3/BII inventory sheets.

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: TM 4700-15/1H, Chapter 2, Section 6 provides detailed information for this event.

1171-ADMN-1008: Conduct an LTI

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: LTI is Limited Technical Inspection.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment requiring inspection and the equipment's records, forms, tools, and references.

**STANDARD:** So equipment is inspected for serviceability and discrepancies are identified.

## PERFORMANCE STEPS:

- 1. Review references.
- 2. Lockout/Tagout equipment (if required).
- 3. Provide for personal protection (if required).
- 4. Identify components.
- 5. Verify component function/serviceability.
- 6. Verify authorized modifications.
- 7. Record discrepancies (if any).
- 8. Attach NAVMC 1018 to equipment (if required).
- 9. Complete NAVMC 10560.

PREREQUISITE EVENTS:

1171-ADMN-1002 1171-ADMN-1006 1171-ADMN-1007

RELATED EVENTS:

1141-ADMN-1008 1142-ADMN-1008 1161-ADMN-1008

### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCO P4790.2 MIMMS Field Procedures Manual
- 3. MCRP 4-11.4A Recovery and Battle Damage Assessment and Repair
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. UNIT SOP Unit's Standing Operating Procedures

### SUPPORT REQUIREMENTS:

**EQUIPMENT:** Personal Protective Equipment (PPE).

### MATERIAL:

NAVMC 1018 (Inspection/Repair Tag)

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection of Engineer Equipment [LTI])

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: TM 4700-15/1H, Chapter 2, Section 9 provides information for completing the NAVMC 1018 and TM 4700-15/1H, Chapter 2, Section 22 provides information for completing the NAVMC 10560.

1171-ADMN-1009: Document equipment operation history

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Water Support Technician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, equipment's records, forms, and references.

**STANDARD:** So hours/days of operation for the equipment are indicated and preventive maintenance intervals can be scheduled/rescheduled.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Validate equipment descriptive data on NAVMC 696D.
- 3. Ensure equipment descriptive data on NAVMC 10524 is correct.
- 4. Record hours/days equipment was operated (on NAVMC 10524 and in GCSS-MC).

# RELATED EVENTS:

1141-ADMN-1009 1142-ADMN-1009 1161-ADMN-1009

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. MCO P4790.2\_ MIMMS Field Procedures Manual
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

#### MATERIAL:

NAVMC 696D (Motor Vehicle and Engineer Equipment Record Folder)
NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: TM 4700-15/1H, Chapter 2, Section 14 provides information for completing the NAVMC 696D and TM 4700-15/1H, Chapter 2, Section 21 provides information for completing the NAVMC 10524.

1171-ADMN-1010: Requisition repair parts

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With access to GCSS-MC and/or forms, a list of required parts/components, required unit unique data, equipment technical manuals, and references.

STANDARD: So valid requisitions are created.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review equipment technical manuals and/or stock lists.
- 3. Retrieve and review assigned GCSS-MC Service Request (SR) task validating equipment identification data.
- 4. Debrief GCSS-MC SR task by entering repair part(s)/component(s) requirement information.
- 5. Change GCSS-MC SR status to "waiting approval."
- 6. Follow up/reconcile requisitions (as needed/required).

PREREQUISITE EVENTS: 1171-ADMN-1006

### RELATED EVENTS:

1141-ADMN-1010 1142-ADMN-1010 1161-ADMN-1010 1171-ADMN-1011

## REFERENCES:

1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid

- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. MCO P4790.2\_ MIMMS Field Procedures Manual
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. UNIT SOP Unit's Standing Operating Procedures

### SUPPORT REQUIREMENTS:

OTHER SUPPORT REQUIREMENTS: Internet access, with a CAC card, may be required in order to complete this event.

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: TM 4700-15/1H, Chapter 2, Section 3 provides information that will assist in entering repair part/component requirements into GCSS-MC.

1171-ADMN-1011: Document equipment service/repair history

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With access to GCSS-MC and/or forms and references.

STANDARD: So service/repair actions for equipment are debriefed.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Retrieve and review assigned GCSS-MC Service Request (SR).
- 3. Debrief GCSS-MC SR task by updating information with service/repair actions taken.
- 4. Change GCSS-MC SR status to "waiting approval."

## RELATED EVENTS:

| 1141-ADMN-1011 | 1142-ADMN-1011 | 1161-ADMN-1011 |
|----------------|----------------|----------------|
| 1171-ADMN-1006 | 1171-ADMN-1008 | 1171-ADMN-1009 |
| 1171-ADMN-1010 |                |                |

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

OTHER SUPPORT REQUIREMENTS: Internet access, with a CAC card, may be required in order to complete this event.

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**1171-ADMN-1012:** Initiate a NAVMC 10772

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: NAVMC 10772 is Recommended Change to Technical Publications/Logistics-Maintenance Data Coding.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With an identified error/deficiency to a technical publication and references.

 $\underline{\text{STANDARD}}$ : So corrections/improvements to the publication will be affected per TM 4700-15/1H and MCO P5215.17C.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Determine if error/deficiency requires use of Part I or Part II of NAVMC 10772.
- 3. Fill in all required blocks of NAVMC 10772.
- 4. Forward completed NAVMC 10772.

PREREQUISITE EVENTS: 1171-ADMN-1006

#### RELATED EVENTS:

1141-ADMN-1012 1142-ADMN-1012 1161-ADMN-1012

## **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO P5215.17\_ The Marine Corps Technical Publications System
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures
- 4. UNIT SOP Unit's Standing Operating Procedures

## SUPPORT REQUIREMENTS:

MATERIAL: NAVMC 10772 (Recommended Change to Technical Publications/Logistics-Maintenance Data Coding)

OTHER SUPPORT REQUIREMENTS: Internet access, with a CAC card, may be required in order to complete this event per Unit's SOP. The website: https://portal.logcom.usmc.mil/sites/pubs/Site%20Pages/NAVMC10772RFC.aspx.

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: TM 4700-15/1H, Chapter 2, Section 23 provides detailed information for this event.

1171-MANT-1231: Perform scheduled PMCS on a Bare Base Shower Facility

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**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

DESCRIPTION: PMCS is Preventive Maintenance Checks and Services.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment, personnel, tools, parts for scheduled services, forms, and references.

**STANDARD:** So equipment is checked and serviced per TM 10006A-14&P/1 and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify GRAYWATER HAZARD(S).
- 3. Review equipment technical manuals.
- 4. Review Service Request (SR).
- 5. Don Personal Protective Equipment (PPE).
- 6. Contain (Lockout/Tagout) hazardous energy.
- 7. Inspect equipment.
- 8. Service equipment.
- 9. Document maintenance performed and deficiencies/discrepancies noted.

#### PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1002 1171-ADMN-1006

1171-ADMN-1011

## RELATED EVENTS:

1171-ADMN-1007 1171-ADMN-1008

# REFERENCES:

- 1. SL-3-10006A Components List for Bath Shower Unit, Expedition
- 2. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- TM 10006A-14&P/14 Erection, Operation, Storage, Inspection and Maintenance Instructions with Illustrated Parts Breakdown for Shower Facility, Bare Base
- 4. TM 10-4520-259-13&P Operator's, Unit and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Heater, Water, Liquid Fuel, Models M-80 and M-85
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Shower Facility, Bare Base [B0055]

### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

Parts for scheduled services

Fuel

<u>UNITS/PERSONNEL</u>: Additional personnel (any MOS) will be required to safely move equipment components, if movement (unpacking/packing) of equipment is necessary for this event.

1171-MANT-1232: Perform scheduled PMCS on a CBL

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

#### **DESCRIPTION:**

PMCS is Preventive Maintenance Checks and Services. CBL is Containerized Batch Laundry Unit.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment, electrical power source, personnel, tools, part for scheduled services, forms, and references.

 $\underline{\mathtt{STANDARD}}$ : So equipment is checked and serviced per TM 11413A-OI/1 and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify GRAYWATER HAZARD(S).
- 3. Review equipment technical manuals.
- 4. Review Service Request (SR).
- 5. Don Personal Protective Equipment (PPE).
- 6. Contain (Lockout/Tagout) hazardous energy.
- 7. Inspect equipment.
- 8. Service equipment.
- 9. Document maintenance performed and deficiencies/discrepancies noted.

### PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1002 1171-ADMN-1006

1171-ADMN-1011

# RELATED EVENTS:

1171-ADMN-1007 1171-ADMN-1008

#### **REFERENCES:**

- 1. FP 11413A Fielding Plan for Containerized Batch Laundry (CBL) Unit
- 2. SI 11413A Warranty Procedures for the Containerized Batch Laundry
- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 4. TM 10-4520-259-13&P Operator's, Unit and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Heater, Water, Liquid

- Fuel, Models M-80 and M-85
- 5. TM 10-4630-206-12&P Operator and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Sewage Ejection Pump (SEP)
- 6. TM 10-8340-240-12&P Operator's and Unit Maintenance Manual, Including Repair Parts and Special Tools List for Modular General Purpose Tent System (MGPTS)
- 7. TM 11413A-OI/1 Operator/Maintenance Manual Instructions with Repair Parts and Special Tools List (RPSTL) for Containerized Batch Laundry
- 8. TM 4700-15/1\_ Ground Equipment Record Procedures
- 9. TM 55-8115-204-23&P Unit and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for General Cargo Container

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Containerized Batch Laundry (CBL) Unit [B0066]

### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])
Parts for scheduled services
Fuel

<u>UNITS/PERSONNEL</u>: Additional personnel (any MOS) will be required to safely move equipment components, if movement (unpacking/packing) of equipment is necessary for this event.

OTHER SUPPORT REQUIREMENTS: Electrical power source may be required.

1171-MANT-1233: Perform scheduled PMCS on a LWPS

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

### **DESCRIPTION:**

PMCS is Preventive Maintenance Checks and Services. LWPS is Lightweight Water Purification System.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment, personnel, tools, parts for scheduled services, forms, and references.

**STANDARD:** So equipment is checked/serviced per TM 11720A-OI and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

# PERFORMANCE STEPS:

1. Identify CHEMICAL HAZARD(S).

- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review equipment technical manuals.
- 5. Review Service Request (SR).
- 6. Don Personal Protective Equipment (PPE).
- 7. Inspect equipment.
- 8. Service equipment.
- 9. Document maintenance performed and deficiencies/discrepancies noted.

#### PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1002 1171-ADMN-1006

1171-ADMN-1011 1171-MANT-1278

### RELATED EVENTS:

1171-ADMN-1007 1171-ADMN-1008

#### **REFERENCES:**

- 1. FP 11720A Fielding Plan for the Lightweight Water Purification System (LWPS)
- 2. SI 11720A-IN/1 Warranty Procedures for the Lightweight Tactical Water Purification System (LWPS)
- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 4. TM 11720A-OI Operator/Maintenance Manual with Repair Parts and Special Tools List (RPSTL) for Lightweight Water Purification System (LWPS)
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Lightweight Water Purification System (LWPS) [B0071]

# MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

Parts for scheduled services

Fuel

<u>UNITS/PERSONNEL</u>: Additional personnel (any MOS) will be required to safely move equipment modules, if movement (unpacking/packing) of equipment is necessary for this event.

1171-MANT-1241: Perform scheduled PMCS on a 500 Gallon Capacity Collapsible Fabric Potable Water Drum

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: PMCS is Preventive Maintenance Checks and Services.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, personnel, tools, forms, and references.

**STANDARD:** So equipment is checked and serviced per TM 10-8110-202-13&P and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Review equipment technical manuals.
- 2. Review Service Request (SR).
- 3. Don Personal Protective Equipment (PPE).
- 4. Inspect equipment.
- 5. Service equipment.
- 6. Document maintenance performed and deficiencies/discrepancies noted.

### PREREQUISITE EVENTS:

1171-ADMN-1006 1171-ADMN-1011

### RELATED EVENTS:

1171-ADMN-1007 1171-ADMN-1008

### **REFERENCES:**

- 1. SL-3-04483A Components List for Tiedown Kit, Drum, Fabric, Collapsible
- 2. SL-4-04483A Repair Parts List for Tiedown Kit, Drum, Fabric, Collapsible
- 3. SL-4-04485B Repair Parts List for Yoke, Towing and Lifting
- 4. TM 10-8110-202-10-HR Hand Receipt Covering Contents of Components of End Item (COEI), Basic Issue Items (BII), and Additional Authorization List (AAL) for Drum, Fabric, Collapsible, Drinking Water, 500 Gallon Capacity
- 5. TM 10-8110-202-13&P Operator's, Organizational, and Direct Support Maintenance Manual and Repair Parts and Special Tools List for Drum, Fabric, Collapsible, Drinking Water, 500 Gallon Capacity
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

500 Gallon Capacity Collapsible Fabric Potable Water Drum [B0571]

<u>MATERIAL</u>: NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

<u>UNITS/PERSONNEL</u>: Additional personnel (any MOS) will be required to safely move equipment, if movement (unpacking/packing) of equipment is necessary for this event.

1171-MANT-1248: Perform scheduled PMCS on a FAWPSS

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

### **DESCRIPTION:**

PMCS is Preventive Maintenance Checks and Services. FAWPSS is Forward Area Water Point Supply System.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment, personnel, tools, parts for scheduled services, forms, and references.

**STANDARD:** So equipment is checked and serviced per TM 08936A-13&P/1 or TM 10-4320-346-12&P and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

## PERFORMANCE STEPS:

- 1. Review equipment technical manuals.
- 2. Review Service Request (SR).
- 3. Don Personal Protective Equipment (PPE).
- 4. Inspect equipment.
- 5. Service equipment.
- 6. Document maintenance performed and deficiencies/discrepancies noted.

## PREREQUISITE EVENTS:

1171-ADMN-1006 1171-ADMN-1011

#### RELATED EVENTS:

1171-ADMN-1007 1171-ADMN-1008

## **REFERENCES:**

- 1. SL-3-08936A Components List for Forward Area Water Point Supply System
- 2. TM 08936A-13&P/1 Operator's, Organizational, and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Forward Area Water Point Supply System (FAWPSS)
- 3. TM 10-4320-346-12&P Operator's and Unit Maintenance Manual Including Repair Parts and Special Tools List for Forward Area Water Point Supply System
- 4. TM 4700-15/1 Ground Equipment Record Procedures

# **SUPPORT REQUIREMENTS:**

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Tool Kit, Multi-Capable Maintainer [C7036]
Forward Area Water Point Supply System (FAWPSS) [B0676]

### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])
Parts for scheduled services
Fuel

<u>UNITS/PERSONNEL</u>: Additional personnel (any MOS) will be required to safely move equipment components, if movement (unpacking/packing) of equipment is necessary for this event.

1171-MANT-1271: Perform scheduled PMCS on a Hypochlorination Unit

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: PMCS is Preventive Maintenance Checks and Services.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment, tools, parts for scheduled services, forms, and references.

**STANDARD:** So equipment is checked and serviced per TM 09476B-13/1 and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

#### PERFORMANCE STEPS:

- 1. Identify HYPOCHLORITE HAZARD(S).
- 2. Identify CHEMICAL BURN HAZARD(S).
- 3. Review equipment technical manuals.
- 4. Review Service Request (SR).
- 5. Don Personal Protective Equipment (PPE).
- 6. Inspect equipment.
- 7. Service equipment.
- 8. Document maintenance performed and deficiencies/discrepancies noted.

### PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1006 1171-ADMN-1011

## RELATED EVENTS:

1171-ADMN-1007 1171-ADMN-1008

### **REFERENCES:**

- 1. TM 09476B-13/1 Operator, Unit, and Direct Support Maintenance Manual for Hypochlorination Unit
- 2. TM 09476B-23P/2 Unit and Direct Support Maintenance Repair Parts and Special Tools List for Hypochlorination Unit
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Hypochlorination Unit [B1140]

# MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection

for Engineer Equipment [LTI])
Parts for scheduled services

1171-MANT-1272: Perform scheduled PMCS on a 125/150 GPM Water Pump (Hatz)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

#### DESCRIPTION:

PMCS is Preventive Maintenance Checks and Services. GPM is Gallons per Minute.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment, tools, parts for scheduled services, forms, and references.

**STANDARD:** So equipment is checked and serviced per TM 08922A-14/1 or TM 4320-OI and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Identify FIRE/EXPLOSION HAZARD(S).
- 2. Identify CARBON MONOXIDE HAZARD(S).
- 3. Review equipment technical manuals.
- 4. Review Service Request (SR).
- 5. Don Personal Protective Equipment (PPE).
- 6. Inspect equipment.
- 7. Service equipment.
- 8. Document maintenance performed and deficiencies/discrepancies noted.

## PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1006 1171-ADMN-1011

# RELATED EVENTS:

1171-ADMN-1007 1171-ADMN-1008

### **REFERENCES:**

- 1. SL-4-08922C Repair Parts List for Pump Unit MWP-200, 125 GPM
- TM 08922A-14/1 Operator's Organizational, Direct Support and General Support Maintenance Manual for Pump Unit, Centrifugal, Self-Priming, 125 GPM, Class 3, Diesel Driven
- 3. TM 08922A-24P/2 Unit, Intermediate Direct Support and Intermediate General Support Maintenance Repair Parts and Special Tools List for Pump Unit, Centrifugal, Self-Priming, 125 GPM, Class 3, Diesel Driven
- 4. TM 09032A-14/1 Operation and Maintenance Instructions with Illustrated Parts List for SIXCON Shipping Frame
- 5. TM 09444A/08990A-15&P/1 Operation and Maintenance Instructions with Repair Parts List and Components List for SIXCON Water Pump Module and SIXCON Water Tank Module

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- 6. TM 4320-OI Operation and Maintenance Manual with Repair Parts List for Pump, Centrifugal, Fuel, 150 GPM; and Pump, Centrifugal, Water, 150 GPM [Hatz]
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures
- 8. ULSS 004283-15 User's Logistics Support Summary for Water Pump and Storage Tank Modules

## SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE) General Mechanics Tool Kit (GMTK) [C7915] 125/150 GPM Water Pump (Hatz) [B1581]

#### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])
Parts for scheduled services
Fuel

1171-MANT-1274: Perform scheduled PMCS on a 125 GPM Water Pump (Yanmar)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

#### DESCRIPTION:

PMCS is Preventive Maintenance Checks and Services. GPM is Gallons per Minute.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment, tools, parts for scheduled services, forms, and references.

**STANDARD:** So equipment is checked and serviced per TM 10-4320-325-14 or TM 4320-14/1 and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

### PERFORMANCE STEPS:

- Identify FIRE/EXPLOSION HAZARD(S).
- Identify CARBON MONOXIDE HAZARD(S).
- 3. Review equipment technical manuals.
- 4. Review Service Request (SR).
- 5. Don Personal Protective Equipment (PPE).
- 6. Inspect equipment.
- 7. Service equipment.
- 8. Document maintenance performed and deficiencies/discrepancies noted.

# PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1006 1171-ADMN-1011

### RELATED EVENTS:

1171-ADMN-1007 1171-ADMN-1008

### **REFERENCES:**

- LO 10-4320-325-12 Lubrication Order for Pump Unit, Centrifugal, Diesel-Driven, Self-Priming, 125 GPM, Water, Class 3
- 2. SL-3-00970D Components List for Pump Unit Set
- 3. TM 10-4320-325-14 Operator, Unit, Direct Support, and General Support Maintenance Manual for Pump Unit, Centrifugal, Diesel-Driven, Self-Priming, 125 GPM, Water, Class III
- 4. TM 10-4320-325-24P Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for Pump Unit, Centrifugal, Diesel-Driven, Self-Priming, 125 GPM, Water, Class III
- 5. TM 4320-14/1 Operator, Unit, Direct Support, and General Support Maintenance for Pump Unit, Centrifugal, Self-Priming, 125 GPM, Water, Class 3, Diesel-Driven
- 6. TM 4320-24P/2 Unit, Direct Support and General Support Repair Parts and Special Tools List for Pump Unit, Centrifugal, Self-Priming, Class 3, Diesel-Driven, Model PAD 125A
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
125 GPM Water Pump (Yanmar) [B1620]

### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])
Parts for scheduled services
Fuel

1171-MANT-1277: Perform scheduled PMCS on a SIXCON Water Tank Module

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

DESCRIPTION: PMCS is Preventive Maintenance Checks and Services.

BILLETS: Water Support Technician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, tools, forms, and references.

**STANDARD:** So equipment is checked and serviced per TM 09444A/08990A-15&P/1 and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Review equipment technical manuals.
- 2. Review Service Request (SR).
- 3. Don Personal Protective Equipment (PPE).
- 4. Inspect equipment.
- 5. Service equipment.
- 6. Document maintenance performed and deficiencies/discrepancies noted.

### PREREQUISITE EVENTS:

1171-ADMN-1006 1171-ADMN-1011

### RELATED EVENTS:

1171-ADMN-1007 1171-ADMN-1008

#### **REFERENCES:**

- MI 08990A-35/2 Instructions for Installing Modification Kit on the Tank, Water Module (SIXCON)
- 2. SL-3-08990A Components List for Module, Water Tank (SIXCON)
- 3. SL-4-08990A Repair Parts List for Tank, Water Module
- 4. TI 08990A-OD/1 Depot Level Repair and/or Rebuild of the Water Tank Module, SIXCON
- 5. TM 09032A-14/1 Operation and Maintenance Instructions with Illustrated Parts List for SIXCON Shipping Frame
- 6. TM 09444A/08990A-15&P/1 Operation and Maintenance Instructions with Repair Parts List and Components List for SIXCON Water Pump Module and SIXCON Water Tank Module
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures
- 8. ULSS 004283-15 User's Logistics Support Summary for Water Pump and Storage Tank Modules

### SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
SIXCON Water Tank Module [B2086]

<u>MATERIAL</u>: NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

<u>1171-MANT-1278</u>: Perform scheduled PMCS on a 3,000 Gallon Capacity Collapsible Fabric Water Tank

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: PMCS is Preventive Maintenance Checks and Services.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, personnel, tools, forms, and references.

**STANDARD:** So equipment is checked and serviced per TM 01034E-12&P/1 and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Review equipment technical manuals.
- 2. Review Service Request (SR).
- 3. Don Personal Protective Equipment (PPE).
- 4. Inspect equipment.
- 5. Service equipment.
- 6. Document maintenance performed and deficiencies/discrepancies noted.

#### PREREQUISITE EVENTS:

1171-ADMN-1006 1171-ADMN-1011

### RELATED EVENTS:

1171-ADMN-1007 1171-ADMN-1008 1171-MANT-1233 1171-MANT-1282

### **REFERENCES:**

- 1. SL-3-01034 Components List for Tank, Fabric, Collapsible, Water Storage, 3,000 Gallon
- TM 01034E-12&P/1 Operator's and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Tank, Fabric, Collapsible, Water Storage, 3,000 Gallons
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
3,000 Gallon Capacity Collapsible Fabric Water Tank [B2130]

MATERIAL: NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

<u>UNITS/PERSONNEL</u>: Additional personnel (any MOS) will be required to safely move equipment, if movement (unpacking/packing) of equipment is necessary for this event.

1171-MANT-1279: Perform scheduled PMCS on a 600 GPM Water Pump

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

### DESCRIPTION:

PMCS is Preventive Maintenance Checks and Services. GPM is Gallons per Minute.

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

## INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment, tools, parts for scheduled services, forms, and references.

**STANDARD:** So equipment is checked and serviced per TM 11986A-OI/1 and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Identify FIRE/EXPLOSION HAZARD(S).
- 2. Identify CARBON MONOXIDE HAZARD(S).
- 3. Review equipment technical manuals.
- 4. Review Service Request (SR).
- 5. Don Personal Protective Equipment (PPE).
- 6. Contain (Lockout/Tagout) hazardous energy.
- 7. Inspect equipment.
- 8. Service equipment.
- 9. Document maintenance performed and deficiencies/discrepancies noted.

## PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1002 1171-ADMN-1006 1171-ADMN-1011

### RELATED EVENTS:

1171-ADMN-1007 1171-ADMN-1008

### **REFERENCES:**

- 1. FP 11982A/11986A Fielding Plan for the 600-Gallons per Minute (GPM) Pump Assemblies
- 2. SI 11982A-OI Warranty Procedures for the 600 Gallons per Minute Fuel Pump Assembly and 600 Gallons per Minute Water Pump Assembly
- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 4. TM 11986A-OI/1 Operation and Maintenance Manual with Repair Parts List (RPL) for Pump Assembly, Water: Diesel-Engine-Driven (DED), 600 GPM, Model 600GPMWCPT
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
600 GPM Water Pump [B2394]

#### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])
Parts for scheduled services
Fuel

1171-MANT-1280: Perform scheduled PMCS on a TWDS

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

### **DESCRIPTION:**

PMCS is Preventive Maintenance Checks and Services.

TWDS is Tactical Water Distribution System.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment, personnel, tools, parts for scheduled services, forms, and references.

**STANDARD:** So equipment is checked and serviced per TM 10-4320-303-13 or TM 10-4320-317-13 and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

## PERFORMANCE STEPS:

- 1. Review equipment technical manuals.
- 2. Review Service Request (SR).
- 3. Don Personal Protective Equipment (PPE).
- 4. Contain (Lockout/Tagout) hazardous energy.
- 5. Inspect equipment.
- 6. Service equipment.
- 7. Document maintenance performed and deficiencies/discrepancies noted.

## PREREQUISITE EVENTS:

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|----------------------|----------------|----------------|
| 1171-ADMN-1001       | 1171-ADMN-1002 | 1171-ADMN-1006 |
| 1171-ADMN-1011       |                |                |

### RELATED EVENTS:

| 1171-ADMN-1007 | 1171-ADMN-1008 | 1171-MANT-1271 |
|----------------|----------------|----------------|
| 1171-MANT-1272 | 1171-MANT-1274 | 1171-MANT-1278 |
| 1171-MANT-1279 | 1171-MANT-1284 | 1171-MANT-1285 |

## REFERENCES:

- 1. GAC Manual 519-91-2 Goodyear Aerospace Corporation Manual for 20,000 Gallon Collapsible Tank, Potable Water
- 2. SL-3-09481A Components List for Connection Set, Hose
- 3. SL-3-09483A Components List for Connection Kit, Hose Nozzle
- 4. SL-3-09484A Components List for Connection Kit, 125 GPM Pump
- 5. SL-3-09495A Components List for Connection Kit, Tank
- 6. SL-3-09496A Components List for Kit, Spare Parts, Tank
- 7. SL-3-09536A Components List for Distribution Point
- 8. SL-3-09537A Components List for Connection Kit, Bag
- 9. SL-3-09538A Components List for Storage Assembly
- 10. SL-3-09539A Components List for Pumping Station
- 11. SL-3-09563A Components List for Interconnection Kit
- 12. SL-3-09721A Components List for Connection Set, Hose
- 13. SL-3-09854A Components List for 10 Mile Segment Kit
- 14. SL-3-10761A Tank, Fabric, Collapsible w/Chest, Fuel, 50,000 Gallon Capacity
- 15. SL-4-06999A Repair Parts List for Tank Assembly, Fabric, Collapsible: 20,000 Gallon Capacity

- 16. SL-4-08922C Repair Parts List for Pump Unit MWP-200, 125 GPM
- 17. TM 08922A-14/1 Operator's Organizational, Direct Support and General Support Maintenance Manual for Pump Unit, Centrifugal, Self-Priming, 125 GPM, Class 3, Diesel Driven
- 18. TM 08922A-24P/2 Unit, Intermediate Direct Support and Intermediate General Support Maintenance Repair Parts and Special Tools List for Pump Unit, Centrifugal, Self-Priming, 125 GPM, Class 3, Diesel Driven
- 19. TM 09476B-13/1 Operator, Unit, and Direct Support Maintenance Manual for Hypochlorination Unit
- 20. TM 09476B-23P/2 Unit and Direct Support Maintenance Repair Parts and Special Tools List for Hypochlorination Unit
- 21. TM 10-4320-303-13 Operator's, Unit and Direct Support Maintenance Manual for Tactical Water Distribution Equipment System (TWDS) Set, 10-Mile Segment
- 22. TM 10-4320-317-13 Operator's, Unit, and Direct Support Maintenance Manual for Tactical Water Distribution Equipment System, 10 Mile Segment
- 23. TM 4320-OI Operation and Maintenance Manual with Repair Parts List for Pump, Centrifugal, Fuel, 150 GPM; and Pump, Centrifugal, Water, 150 GPM [Hatz]
- 24. TM 4700-15/1\_ Ground Equipment Record Procedures
- 25. TM 5-5430-211-13&P Operator's, Organizational and Direct Support Maintenance Manual, Including Repair Parts and Special Tools List for Tank, Fabric, Collapsible, Pillow Type, 50,000 Gallons, Drinking Water
- 26. TM 5-5430-216-13&P Tank, Fabric, Collapsible 20,000 Gallon, Water
- 27. ULSS 004283-15 User's Logistics Support Summary for Water Pump and Storage Tank Modules

### SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Tactical Water Distribution System (TWDS) [B2395]

## MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])
Parts for scheduled services
Fuel

<u>UNITS/PERSONNEL</u>: Additional personnel (any MOS) will be required to safely move equipment components, if movement (unpacking/packing) of equipment is necessary for this event.

1171-MANT-1282: Perform scheduled PMCS on a TWPS

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

### DESCRIPTION:

PMCS is Preventive Maintenance Checks and Services. TWPS is 1,500 GPH Tactical Water Purification System. GPH is Gallons per Hour.

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment, electrical power source, personnel, tools, parts for scheduled services, forms, and references.

STANDARD: So equipment is checked/serviced per TM 10802A-OI/1A Vol 1 and TM 10802A-OI/1A Vol 2 and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify CHEMICAL HAZARD(S).
- Identify FIRE/EXPLOSION HAZARD(S).
- 4. Identify CARBON MONOXIDE HAZARD(S).
- 5. Identify GRAYWATER HAZARD(S).
- 6. Review equipment technical manuals.
- 7. Review Service Request (SR).
- 8. Don Personal Protective Equipment (PPE).
- 9. Ensure equipment is grounded (or bonded to power source).
- 10. Contain (Lockout/Tagout) hazardous energy.
- 11. Inspect equipment.
- 12. Service equipment.
- 13. Document maintenance performed and deficiencies/discrepancies noted.

### PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1002 1171-ADMN-1006 1171-ADMN-1011 1171-MANT-1278

RELATED EVENTS:

1171-ADMN-1007 1171-ADMN-1008

### REFERENCES:

- 1. FP 10802A Fielding Plan for 1,500 Gallons per Hour (GPH) Tactical Water Purification System (TWPS)
- 2. SI 10802A-IN/1 Warranty Procedures for the Marine Corps Tactical Water Purification System (TWPS)
- 3. SI 10802A-OR/2 Supply Instruction for Advance Change Notice to the Marine Corps Tactical Water Purification System (MC-TWPS)
- 4. SI 10802A-OR/3 Supply Instructions for the TWPS Recirculation Kit
- 5. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 6. TM 10802A-OI/1A Vol 1 Operator Manual for Tactical Water Purification System (TWPS)
- 7. TM 10802A-OI/1A Vol 2 Field Maintenance Manual for Tactical Water Purification System (TWPS)
- 8. TM 10802A-OI/2A Field Maintenance Repair Parts and Special Tools List for Tactical Water Purification System (TWPS)
- 9. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
1,500 GPH Tactical Water Purification System (TWPS) [B2605]

#### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

Parts for scheduled services

<u>UNITS/PERSONNEL</u>: TM 10802A-OI/1A Vol 1 identifies a requirement for three MOS 1171 (Water Support Technicians) to safely operate the TWPS. However, additional personnel (any MOS) are required to safely move equipment components, if movement (unpacking/packing) of equipment is necessary for this event.

OTHER SUPPORT REQUIREMENTS: Electrical power source may be required.

<u>1171-MANT-1284</u>: Perform scheduled PMCS on a 50,000 Gallon Capacity Collapsible Fabric Potable Water Tank

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 24 months

DESCRIPTION: PMCS is Preventive Maintenance Checks and Services.

BILLETS: Water Support Technician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, personnel, tools, forms, and references.

**STANDARD:** So equipment is checked and serviced per TM 5-5430-211-13&P and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

## PERFORMANCE STEPS:

- 1. Review equipment technical manuals.
- 2. Review Service Request (SR).
- 3. Don Personal Protective Equipment (PPE).
- 4. Inspect equipment.
- 5. Service equipment.
- 6. Document maintenance performed and deficiencies/discrepancies noted.

#### PREREQUISITE EVENTS:

1171-ADMN-1006 1171-ADMN-1011

## RELATED EVENTS:

1171-ADMN-1007 1171-ADMN-1008

## REFERENCES:

1. SL-3-10761A Tank, Fabric, Collapsible w/Chest, Fuel, 50,000 Gallon

Capacity

- 2. TM 4700-15/1\_ Ground Equipment Record Procedures
- 3. TM 5-5430-211-13&P Operator's, Organizational and Direct Support Maintenance Manual, Including Repair Parts and Special Tools List for Tank, Fabric, Collapsible, Pillow Type, 50,000 Gallons, Drinking Water

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
50,000 Gallon Capacity Collapsible Fabric Potable Water Tank [B2631]

MATERIAL: NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

<u>UNITS/PERSONNEL</u>: Additional personnel (any MOS) will be required to safely move equipment, if movement (unpacking/packing) of equipment is necessary for this event.

1171-MANT-1285: Perform scheduled PMCS on a 20,000 Gallon Capacity Collapsible Fabric Potable Water Tank

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: PMCS is Preventive Maintenance Checks and Services.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, personnel, tools, forms, and references.

**STANDARD:** So equipment is checked and serviced per TM 5-5430-216-13&P and actions/deficiencies/discrepancies are recorded per TM 4700-15/1H.

#### PERFORMANCE STEPS:

- 1. Review equipment technical manuals.
- 2. Review Service Request (SR).
- 3. Don Personal Protective Equipment (PPE).
- 4. Inspect equipment.
- 5. Service equipment.
- 6. Document maintenance performed and deficiencies/discrepancies noted.

### PREREQUISITE EVENTS:

1171-ADMN-1006 1171-ADMN-1011

## RELATED EVENTS:

1171-ADMN-1007 1171-ADMN-1008

### **REFERENCES:**

- 1. GAC Manual 519-91-2 Goodyear Aerospace Corporation Manual for 20,000 Gallon Collapsible Tank, Potable Water
- 2. SL-4-06999A Repair Parts List for Tank Assembly, Fabric, Collapsible: 20,000 Gallon Capacity
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures
- 4. TM 5-5430-216-13&P Tank, Fabric, Collapsible 20,000 Gallon, Water

#### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
20,000 Gallon Capacity Collapsible Fabric Potable Water Tank [B2632]

MATERIAL: NAVMC 10560 (Worksheet for Preventive Maintenance and Technical
Inspection for Engineer Equipment [LTI])

<u>UNITS/PERSONNEL</u>: Additional personnel (any MOS) will be required to safely move equipment, if movement (unpacking/packing) of equipment is necessary for this event.

1171-MANT-1331: Diagnose a Bare Base Shower Facility malfunction

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, a 120/208VAC 60Hz electrical power source, tools, forms and references.

**STANDARD:** So equipment faults are identified and corrective action(s) initiated.

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify GRAYWATER HAZARD(S).
- 3. Review LTI.
- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE).
- 6. Ensure equipment is grounded.
- 7. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 8. Check valves/switches/gauges for correct settings.
- 9. Isolate faulty component(s)/identify leaks.
- 10. Determine if component fault was caused by a defect elsewhere.
- 11. Determine echelon(s) of maintenance.
- 12. Document findings (complete LTI/update Service Request).
- 13. Order parts (if required).

PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1002 1171-ADMN-1006

RELATED EVENTS:

1171-ADMN-1008 1171-ADMN-1010 1171-ADMN-1011

1171-MANT-1231

#### **REFERENCES:**

1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid

- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- TM 10006A-14&P/14 Erection, Operation, Storage, Inspection and Maintenance Instructions with Illustrated Parts Breakdown for Shower Facility, Bare Base
- 5. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 6. TM 10-4520-259-13&P Operator's, Unit and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Heater, Water, Liquid Fuel, Models M-80 and M-85
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Faulty Shower Facility, Bare Base [B0055] or components

#### <u>MATERIAL</u>:

NAVMC  $\overline{10560}$  (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI]) Fuel

OTHER SUPPORT REQUIREMENTS: 120/280VAC 60Hz electrical power source (normally a 10kW Tactical Generator)

### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Assistance from an Engineer Equipment Electrical Systems Technician (MOS 1142) or a graduate of the Advanced Water Support Technician Course (CID: M03UAC2) may be required to fully diagnose any electrical system related malfunction.

1171-MANT-1332: Diagnose a CBL malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: CBL is Containerized Batch Laundry Unit.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

### INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, a 120/208VAC 60Hz electrical power source, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective actions initiated.

#### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify GRAYWATER HAZARD(S).
- 3. Review LTI.
- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE).
- 6. Ensure equipment is grounded.
- 7. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 8. Check valves/switches/gauges for correct settings.
- 9. Isolate faulty component(s)/identify leaks.
- 10. Determine if component fault was caused by a defect elsewhere.
- 11. Determine echelon(s) of maintenance.
- 12. Document findings (complete LTI/update Service Request).
- 13. Order parts (if required).

## PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1002 1171-ADMN-1006

#### RELATED EVENTS:

1171-ADMN-1008 1171-ADMN-1010 1171-ADMN-1011 1171-MANT-1232

#### **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 4. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 5. TM 10-4630-206-12&P Operator and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Sewage Ejection Pump (SEP)
- 6. TM 11413A-OI/1 Operator/Maintenance Manual Instructions with Repair Parts and Special Tools List (RPSTL) for Containerized Batch Laundry
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures

#### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Faulty Containerized Batch Laundry (CBL) Unit [B0066] or components

MATERIAL: NAVMC 10560 (Worksheet for Preventive Maintenance and Technical
Inspection for Engineer Equipment [LTI])

OTHER SUPPORT REQUIREMENTS: 120/208VAC 60Hz electrical power source (normally a 100kW Tactical Generator)

### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Assistance from an Electrician (MOS 1141), Engineer Equipment Electrical Systems Technician (MOS 1142) or a graduate of the Advanced Water Support Technician Course (CID: MO3UAC2) may be required to fully diagnose any electrical system related malfunction.

1171-MANT-1333: Diagnose a LWPS malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: LWPS is Lightweight Water Purification System.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective actions initiated.

## PERFORMANCE STEPS:

- 1. Identify CHEMICAL HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review LTI.
- 5. Review equipment technical manuals.
- 6. Don Personal Protective Equipment (PPE).
- 7. Ensure any stored/hazardous energy is dissipated/controlled.
- 8. Check valves/switches/gauges/meters for correct settings.
- 9. Isolate faulty component(s)/identify leaks.
- 10. Determine if component fault(s) was caused by a defect elsewhere.
- 11. Document findings (complete LTI/update Service Request).
- 12. Order parts (if required).

# PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1002 1171-ADMN-1006

#### RELATED EVENTS:

1171-ADMN-1010 1171-ADMN-1011 1171-MANT-1233

### **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide

- 3. SI 11720A-IN/1 Warranty Procedures for the Lightweight Tactical Water Purification System (LWPS)
- 4. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 5. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 6. TM 11720A-OI Operator/Maintenance Manual with Repair Parts and Special Tools List (RPSTL) for Lightweight Water Purification System (LWPS)
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Faulty Lightweight Water Purification System (LWPS) [B0071] or components

#### MATERIAL

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])
Fuel

### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Assistance from a graduate of the Advanced Water Support Technician Course (CID: M03UAC2) may be required to fully diagnose any electrical malfunction on the Cold Weather Module.

1171-MANT-1348: Diagnose a FAWPSS malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: FAWPSS is Forward Area Water Point Supply System.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective actions initiated.

- 1. Review LTI.
- 2. Review equipment technical manuals.
- 3. Don Personal Protective Equipment (PPE).
- 4. Check valves/switches for correct settings.
- 5. Isolate faulty component(s)/identify leaks.
- 6. Determine if component fault was caused by a defect elsewhere.
- 7. Determine echelon(s) of maintenance.

- 8. Document findings (complete LTI/update Service Request).
- 9. Order parts (if required).

**PREREQUISITE EVENTS:** 1171-ADMN-1006

### RELATED EVENTS:

1171-ADMN-1008 1171-ADMN-1010 1171-ADMN-1011

1171-MANT-1248

#### **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TM 08936A-13&P/1 Operator's, Organizational, and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Forward Area Water Point Supply System (FAWPSS)
- 4. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 5. TM 10-4320-346-12&P Operator's and Unit Maintenance Manual Including Repair Parts and Special Tools List for Forward Area Water Point Supply System
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Faulty Forward Area Water Point Supply System (FAWPSS) [B0676] or components

#### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])
Fuel

1171-MANT-1371: Diagnose a Hypochlorination Unit malfunction

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**STANDARD:** So equipment faults are identified and corrective actions initiated.

- Identify HYPOCHLORITE HAZARD(S).
- 2. Identify CHEMICAL BURN HAZARD(S).
- 3. Review LTI.

- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE).
- 6. Check valves/switches for correct settings.
- 7. Isolate faulty component(s)/identify leaks.
- 8. Determine if component fault was caused by a defect elsewhere.
- 9. Determine echelon(s) of maintenance.
- 10. Document findings (complete LTI/update Service Request).
- 11. Order parts (if required).

### PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1002 1171-ADMN-1006

#### RELATED EVENTS:

1171-ADMN-1010 1171-ADMN-1011 1171-MANT-1271

#### **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TM 09476B-13/1 Operator, Unit, and Direct Support Maintenance Manual for Hypochlorination Unit
- 4. TM 09476B-23P/2 Unit and Direct Support Maintenance Repair Parts and Special Tools List for Hypochlorination Unit
- 5. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Faulty Hypochlorination Unit [B1140] or components

MATERIAL: NAVMC 10560 (Worksheet for Preventive Maintenance and Technical
Inspection for Engineer Equipment [LTI])

1171-MANT-1372: Diagnose a 125/150 GPM Water Pump (Hatz) malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective actions initiated.

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- Identify FIRE/EXPLOSION HAZARD(S).
- 2. Identify CARBON MONOXIDE HAZARD(S).
- 3. Review LTI.
- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE).
- 6. Check valves/switches for correct settings.
- 7. Isolate faulty component(s)/identify leaks.
- 8. Determine if component fault was caused by a defect elsewhere.
- 9. Determine echelon(s) of maintenance.
- 10. Document findings (complete LTI/update Service Request).
- 11. Order parts (if required).

### PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1002 1171-ADMN-1006

#### RELATED EVENTS:

1171-ADMN-1008 1171-ADMN-1010 1171-ADMN-1011 1171-MANT-1272

#### **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. SL-4-08922C Repair Parts List for Pump Unit MWP-200, 125 GPM
- 4. TM 08922A-14/1 Operator's Organizational, Direct Support and General Support Maintenance Manual for Pump Unit, Centrifugal, Self-Priming, 125 GPM, Class 3, Diesel Driven
- 5. TM 08922A-24P/2 Unit, Intermediate Direct Support and Intermediate General Support Maintenance Repair Parts and Special Tools List for Pump Unit, Centrifugal, Self-Priming, 125 GPM, Class 3, Diesel Driven
- 6. TM 09032A-14/1 Operation and Maintenance Instructions with Illustrated Parts List for SIXCON Shipping Frame
- 7. TM 09444A/08990A-15&P/1 Operation and Maintenance Instructions with Repair Parts List and Components List for SIXCON Water Pump Module and SIXCON Water Tank Module
- 8. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 9. TM 4320-OI Operation and Maintenance Manual with Repair Parts List for Pump, Centrifugal, Fuel, 150 GPM; and Pump, Centrifugal, Water, 150 GPM [Hatz]
- 10. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Faulty 125/150 GPM Water Pump (Hatz) [B1581] or components

#### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])
Fuel

1171-MANT-1374: Diagnose a 125 GPM Water Pump (Yanmar) malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, tools, forms, and references.

STANDARD: So equipment faults are identified and corrective actions initiated.

## PERFORMANCE STEPS:

- Identify FIRE/EXPLOSION HAZARD(S).
- 2. Identify CARBON MONOXIDE HAZARD(S).
- 3. Review LTI.
- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE).
- 6. Check valves/switches for correct settings.
- 7. Isolate faulty component(s)/identify leaks.
- 8. Determine if component fault was caused by a defect elsewhere.
- 9. Determine echelon(s) of maintenance.
- 10. Document findings (complete LTI/update Service Request).
- 11. Order parts (if required).

#### PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1002 1171-ADMN-1006

#### RELATED EVENTS:

1171-ADMN-1008 1171-ADMN-1010 1171-ADMN-1011

1171-MANT-1274

## **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 4. TM 10-4320-325-14 Operator, Unit, Direct Support, and General Support Maintenance Manual for Pump Unit, Centrifugal, Diesel-Driven, Self-Priming, 125 GPM, Water, Class III
- 5. TM 10-4320-325-24P Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for Pump Unit, Centrifugal, Diesel-Driven, Self-Priming, 125 GPM, Water, Class III
- 6. TM 4320-14/1 Operator, Unit, Direct Support, and General Support Maintenance for Pump Unit, Centrifugal, Self-Priming, 125 GPM, Water, Class 3, Diesel-Driven
- 7. TM 4320-24P/2 Unit, Direct Support and General Support Repair Parts and Special Tools List for Pump Unit, Centrifugal, Self-Priming, Class 3, Diesel-Driven, Model PAD 125A
- 8. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Faulty 125 GPM Water Pump (Yanmar) [B1620]

### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI]) Fuel

1171-MANT-1379: Diagnose a 600 GPM Water Pump malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective actions initiated.

### PERFORMANCE STEPS:

- Identify FIRE/EXPLOSION HAZARD(S).
- 2. Identify CARBON MONOXIDE HAZARD(S).
- 3. Review LTI.
- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE).
- 6. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 7. Check valves/switches/gauges for correct settings.
- 8. Isolate faulty component(s)/identify leaks.
- 9. Determine if component fault was caused by a defect elsewhere.
- 10. Determine echelon(s) of maintenance.
- 11. Document findings (complete LTI/update Service Request).
- 12. Order parts (if required).

## PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1002 1171-ADMN-1006

# RELATED EVENTS:

1171-ADMN-1008 1171-ADMN-1010 1171-ADMN-1011 1171-MANT-1279

#### **REFERENCES:**

- 1. FP 11982A/11986A Fielding Plan for the 600-Gallons per Minute (GPM) Pump Assemblies
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. SI 11982A-OI Warranty Procedures for the 600 Gallons per Minute Fuel Pump

- Assembly and 600 Gallons per Minute Water Pump Assembly
- 5. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 6. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 7. TM 11986A-OI/1 Operation and Maintenance Manual with Repair Parts List (RPL) for Pump Assembly, Water: Diesel-Engine-Driven (DED), 600 GPM, Model 600GPMWCPT
- 8. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Faulty 600 GPM Water Pump [B2394] or components

#### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])
Fuel

### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Assistance from an Engineer Equipment Electrical Systems Technician (MOS 1142) or a graduate of the Advanced Water Support Technician Course (CID: M03UAC2) may be required to fully diagnose any electrical system related malfunction.

<u>1171-MANT-1382</u>: Diagnose a TWPS malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: TWPS is 1,500 GPH Tactical Water Purification System.

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, a 416VAC 60Hz 3-Phase electrical power source, personnel, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective actions initiated.

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify CHEMICAL HAZARD(S).
- Identify FIRE/EXPLOSION HAZARD(S).
- 4. Identify CARBON MONOXIDE HAZARD(S).
- 5. Identify GRAYWATER HAZARD(S).

- 6. Review LTI.
- 7. Review equipment technical manuals.
- 8. Don Personal Protective Equipment (PPE).
- 9. Ensure equipment is grounded (or bonded to power source).
- 10. Ensure any stored/hazardous energy is dissipated/controlled
   (Lockout/Tagout).
- 11. Check valves/switches/gauges for correct settings.
- 12. Isolate faulty component(s)/identify leaks.
- 13. Determine if component fault was caused by a defect elsewhere.
- 14. Determine echelon(s) of maintenance.
- 15. Document findings (complete LTI/update Service Request).
- 16. Order parts (if required).

## PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1002 1171-ADMN-1006

#### RELATED EVENTS:

1171-ADMN-1008 1171-ADMN-1010 1171-ADMN-1011

1171-MANT-1282

#### **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. SI 10802A-IN/1 Warranty Procedures for the Marine Corps Tactical Water Purification System (TWPS)
- 4. SI 10802A-OR/3 Supply Instructions for the TWPS Recirculation Kit
- 5. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 6. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 7. TM 10802A-OI/1A Vol 1 Operator Manual for Tactical Water Purification System (TWPS)
- 8. TM 10802A-OI/1A Vol 2 Field Maintenance Manual for Tactical Water Purification System (TWPS)
- 9. TM 10802A-OI/2A Field Maintenance Repair Parts and Special Tools List for Tactical Water Purification System (TWPS)
- 10. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Faulty 1,500 GPH Tactical Water Purification System (TWPS) [B2605] or components

MATERIAL: NAVMC 10560 Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

<u>UNITS/PERSONNEL</u>: Three licensed Water Support Technicians (MOS 1171) are required to set up and operate the TWPS. An Electrician (MOS 1141) is required to hook up and operate the generator.

OTHER SUPPORT REQUIREMENTS: 416VAC 60Hz 3-Phase electrical power source (normally a 60kW Tactical Generator)

#### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Assistance from an Engineer Equipment Electrical Systems Technician (MOS 1142) or a graduate of the Advanced Water Support Technician Course (CID: M03UAC2) may be required to fully diagnose any electrical system related malfunction.

1171-MANT-1431: Repair a Bare Base Shower Facility

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, a 120/208VAC 60Hz electrical power source, personnel, repair parts from layette, tools, forms, and references.

**STANDARD:** So equipment functions/operates as specified in TM 10006A-14&P1 and repairs are documented per TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify GRAYWATER HAZARD(S).
- 3. Review Service Request (SR).
- 4. Inventory parts from layette.
- 5. Review equipment technical manuals.
- 6. Don Personal Protective Equipment (PPE).
- 7. Ensure stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 8. Remove faulty part(s).
- 9. Prepare area(s) for new part(s).
- 10. Attach new part(s), making necessary adjustments.
- 11. Test repairs.
- 12. Document repairs.

### PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1002 1171-ADMN-1006 1171-ADMN-1008 1171-ADMN-1011 1171-MANT-1331

RELATED EVENTS: 1171-MANT-1231

#### **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 4. TM 10006A-14&P/14 Erection, Operation, Storage, Inspection and Maintenance Instructions with Illustrated Parts Breakdown for Shower Facility, Bare Base

- 5. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 6. TM 10-4520-259-13&P Operator's, Unit and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Heater, Water, Liquid Fuel, Models M-80 and M-85
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures

#### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Degraded/deadlined Shower Facility, Bare Base [B0055]

#### MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

Fuel for water heater

<u>UNITS/PERSONNEL</u>: Additional personnel (any MOS) will be required to safely move equipment components, if movement (unpacking/packing) of equipment is necessary for this event.

OTHER SUPPORT REQUIREMENTS: 120/208VAC 60Hz electrical power source (normally a 10kW Tactical Generator)

1171-MANT-1432: Repair a CBL

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

DESCRIPTION: CBL is Containerized Batch Laundry Unit.

BILLETS: Water Support Technician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, personnel, a 120/208VAC 60Hz electrical power source, repair parts from layette, tools, forms, and references.

**STANDARD:** So equipment functions/operates as specified in TM 11413A-OI/1 and repairs are documented per TM 4700-15/1H.

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify GRAYWATER HAZARD(S).
- 3. Review Service Request (SR).
- 4. Inventory parts from layette.
- 5. Review equipment technical manuals.
- 6. Don Personal Protective Equipment (PPE).
- 7. Ensure equipment is grounded.

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- 8. Ensure stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 9. Remove faulty part(s).
- 10. Prepare area(s) for new part(s).
- 11. Attach new part(s), making necessary adjustments.
- 12. Test repairs.
- 13. Document repairs.

### PREREQUISITE EVENTS:

1171-ADMN-1002 1171-ADMN-1001 1171-ADMN-1006 1171-ADMN-1008 1171-ADMN-1011 1171-MANT-1332

**RELATED EVENTS:** 1171-MANT-1232

#### REFERENCES:

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 4. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 5. TM 10-4630-206-12&P Operator and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Sewage Ejection Pump (SEP)
- 6. TM 11413A-OI/1 Operator/Maintenance Manual Instructions with Repair Parts and Special Tools List (RPSTL) for Containerized Batch Laundry
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Degraded/deadlined Containerized Batch Laundry (CBL) Unit [B0066]

### MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

Fuel for water heater

UNITS/PERSONNEL: Additional personnel (any MOS) will be required to safely move equipment components, if movement (unpacking/packing) of equipment is necessary for this event.

OTHER SUPPORT REQUIREMENTS: 120/208VAC 60Hz electrical power source (normally a 100kW Tactical Generator)

**1171-MANT-1433:** Repair a LWPS

**EVALUATION-CODED:** NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: LWPS is Lightweight Water Purification System.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

### INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, personnel, repair parts from layette, tools, forms, and references.

**STANDARD:** So equipment functions/operates as specified in TM 11720A-OI and repairs are documented per TM 4700-15/1H.

#### PERFORMANCE STEPS:

- 1. Identify CHEMICAL HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review Service Request (SR).
- 5. Inventory parts from layette.
- 6. Review equipment technical manuals.
- 7. Don Personal Protective Equipment (PPE).
- 8. Remove faulty part(s).
- 9. Prepare area(s) for new part(s).
- 10. Attach new part(s), making necessary adjustments.
- 11. Test repairs.
- 12. Document repairs.

## PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1002 1171-ADMN-1006 1171-ADMN-1008 1171-ADMN-1011

**RELATED EVENTS:** 1171-MANT-1282

### REFERENCES:

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. SI 11720A-IN/1 Warranty Procedures for the Lightweight Tactical Water Purification System (LWPS)
- 4. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 5. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 6. TM 11720A-OI Operator/Maintenance Manual with Repair Parts and Special Tools List (RPSTL) for Lightweight Water Purification System (LWPS)
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Degraded/deadlined Lightweight Water Purification System (LWPS) [B0071]

# MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

Fuel

<u>UNITS/PERSONNEL</u>: Additional personnel (any MOS) will be required to safely move equipment modules, if movement (unpacking/packing) of equipment is necessary for this event.

<u>1171-MANT-1441</u>: Repair a 500 Gallon Capacity Collapsible Fabric Potable Water Drum

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, tools, forms, and references.

**STANDARD:** So equipment functions/operates as specified in TM 10-8110-202-13&P and repairs are documented per TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Review Service Request (SR).
- 2. Inventory parts from layette.
- 3. Review equipment technical manuals.
- 4. Don Personal Protective Equipment (PPE).
- 5. Remove faulty part(s), if required.
- 6. Prepare area(s) for new part(s)/patch/plug.
- 7. Attach new part(s)/patch/plug, making necessary adjustments.
- 8. Test repairs.
- 9. Document repairs.

#### PREREQUISITE EVENTS:

1171-ADMN-1006 1171-ADMN-1008 1171-ADMN-1011 1171-MANT-1241

### RELATED EVENTS:

1171-MANT-1478 1171-MANT-1484 1171-MANT-1485

### **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 4. TM 10-8110-202-13&P Operator's, Organizational, and Direct Support Maintenance Manual and Repair Parts and Special Tools List for Drum, Fabric, Collapsible, Drinking Water, 500 Gallon Capacity
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Degraded/deadlined 500 Gallon Capacity Collapsible Fabric Potable Water Drum [B0571]

#### MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

1171-MANT-1448: Repair a FAWPSS

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: FAWPSS is Forward Area Water Point Supply System.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, tools, forms, and references.

**STANDARD:** So equipment functions/operates as specified in TM 08936A-13&P/1 or TM 10-4320-346-12&P and repairs are documented per TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Review Service Request (SR).
- 2. Inventory parts from layette.
- 3. Review equipment technical manuals.
- 4. Don Personal Protective Equipment (PPE).
- 5. Remove faulty part(s).
- 6. Prepare area(s) for new part(s).
- 7. Attach new part(s), making necessary adjustments.
- 8. Test repairs.
- 9. Document repairs.

#### PREREQUISITE EVENTS:

1171-ADMN-1006 1171-ADMN-1008 1171-ADMN-1011 1171-MANT-1348

RELATED EVENTS: 1171-MANT-1248

# REFERENCES:

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TM 08936A-13&P/1 Operator's, Organizational, and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Forward Area Water Point Supply System (FAWPSS)

- 4. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 5. TM 10-4320-346-12&P Operator's and Unit Maintenance Manual Including Repair Parts and Special Tools List for Forward Area Water Point Supply System
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Degraded/deadlined Forward Area Water Point Supply System (FAWPSS) [B0676]

#### MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

Fuel

1171-MANT-1471: Repair a Hypochlorination Unit

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, tools, forms, and references.

**STANDARD:** So equipment functions/operates as specified in TM 09476B-13/1 and repairs are documented per TM 4700-15/1H.

## PERFORMANCE STEPS:

- 1. Identify HYPOCHLORITE HAZARD(S).
- 2. Identify CHEMICAL BURN HAZARD(S).
- 3. Review Service Request (SR).
- 4. Inventory parts from layette.
- 5. Review equipment technical manuals.
- 6. Don Personal Protective Equipment (PPE).
- 7. Remove faulty part(s).
- 8. Prepare area(s) for new part(s).
- 9. Attach new part(s), making necessary adjustments.
- 10. Test repairs.
- 11. Document repairs.

## PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1006 1171-ADMN-1008

1171-ADMN-1011 1171-MANT-1371

**RELATED EVENTS:** 1171-MANT-1271

#### **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TM 09476B-13/1 Operator, Unit, and Direct Support Maintenance Manual for Hypochlorination Unit
- 4. TM 09476B-23P/2 Unit and Direct Support Maintenance Repair Parts and Special Tools List for Hypochlorination Unit
- 5. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Degraded/deadlined Hypochlorination Unit [B1140]

### MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

**1171-MANT-1472:** Repair a 125/150 GPM Water Pump (Hatz)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, tools, forms, and references.

**STANDARD:** So equipment functions/operates as specified in TM 08922A-14/1, TM 09444A/08990A-15&P/1, or TM 4320-OI and repairs are documented per TM 4700-15/1H.

- Identify FIRE/EXPLOSION HAZARD(S).
- 2. Identify CARBON MONOXIDE HAZARD(S).
- 3. Review Service Request (SR).
- 4. Inventory parts from layette.
- 5. Review equipment technical manuals.
- 6. Don Personal Protective Equipment (PPE).
- 7. Remove faulty part(s).
- 8. Prepare area(s) for new part(s).
- 9. Attach new part(s), making necessary adjustments.
- 10. Test repairs.

11. Document repairs.

#### PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1006 1171-ADMN-1008

1171-ADMN-1011 1171-MANT-1372

**RELATED EVENTS:** 1171-MANT-1272

#### REFERENCES:

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. SL-4-08922C Repair Parts List for Pump Unit MWP-200, 125 GPM
- 4. TM 08922A-14/1 Operator's Organizational, Direct Support and General Support Maintenance Manual for Pump Unit, Centrifugal, Self-Priming, 125 GPM, Class 3, Diesel Driven
- 5. TM 08922A-24P/2 Unit, Intermediate Direct Support and Intermediate General Support Maintenance Repair Parts and Special Tools List for Pump Unit, Centrifugal, Self-Priming, 125 GPM, Class 3, Diesel Driven
- 6. TM 09032A-14/1 Operation and Maintenance Instructions with Illustrated Parts List for SIXCON Shipping Frame
- 7. TM 09444A/08990A-15&P/1 Operation and Maintenance Instructions with Repair Parts List and Components List for SIXCON Water Pump Module and SIXCON Water Tank Module
- 8. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 9. TM 4320-OI Operation and Maintenance Manual with Repair Parts List for Pump, Centrifugal, Fuel, 150 GPM; and Pump, Centrifugal, Water, 150 GPM [Hatz]
- 10. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Degraded/deadlined 125/150 GPM Water Pump (Hatz) [B1581]

#### MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI]) Fuel

1171-MANT-1474: Repair a 125 GPM Water Pump (Yanmar)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

**INITIAL TRAINING SETTING: FORMAL** 

CONDITION: With a Service Request (SR) on degraded/deadlined equipment, the

degraded/deadlined equipment, repair parts from layette, tools, forms, and references.

**STANDARD:** So equipment functions/operates as specified in TM 10-4320-325-14, or TM 4320-14/1 and repairs are documented per TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Identify FIRE/EXPLOSION HAZARD(S).
- 2. Identify CARBON MONOXIDE HAZARD(S).
- 3. Review Service Request (SR).
- 4. Inventory parts from layette.
- 5. Review equipment technical manuals.
- 6. Don Personal Protective Equipment (PPE).
- 7. Remove faulty part(s).
- 8. Prepare area(s) for new part(s).
- 9. Attach new part(s), making necessary adjustments.
- 10. Test repairs.
- 11. Document repairs.

### PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1006 1171-ADMN-1008

1171-ADMN-1011 1171-MANT-1374

**RELATED EVENTS:** 1171-MANT-1274

#### **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 4. TM 10-4320-325-14 Operator, Unit, Direct Support, and General Support Maintenance Manual for Pump Unit, Centrifugal, Diesel-Driven, Self-Priming, 125 GPM, Water, Class III
- 5. TM 10-4320-325-24P Unit, Direct Support and General Support Maintenance Repair Parts and Special Tools List for Pump Unit, Centrifugal, Diesel-Driven, Self-Priming, 125 GPM, Water, Class III
- 6. TM 4320-14/1 Operator, Unit, Direct Support, and General Support Maintenance for Pump Unit, Centrifugal, Self-Priming, 125 GPM, Water, Class 3, Diesel-Driven
- 7. TM 4320-24P/2 Unit, Direct Support and General Support Repair Parts and Special Tools List for Pump Unit, Centrifugal, Self-Priming, Class 3, Diesel-Driven, Model PAD 125A
- 8. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Degraded/deadlined 125 GPM Water Pump (Yanmar) [B1620]

### MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

Fuel

1171-MANT-1477: Repair a SIXCON Water Tank Module

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, tools, forms, and references.

**STANDARD:** So equipment functions/operates as specified in TM 09444A/08990A-15&P/1 and repairs are documented per TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Review Service Request (SR).
- 2. Inventory parts from layette.
- 3. Review equipment technical manuals.
- 4. Don Personal Protective Equipment (PPE).
- 5. Remove faulty part(s).
- 6. Prepare area(s) for new part(s).
- 7. Attach new part(s), making necessary adjustments.
- 8. Test repairs.
- 9. Document repairs.

#### PREREQUISITE EVENTS:

1171-ADMN-1006 1171-ADMN-1008 1171-ADMN-1011 1171-MANT-1277

## **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. SL-4-08990A Repair Parts List for Tank, Water Module
- 4. TI 08990A-OD/1 Depot Level Repair and/or Rebuild of the Water Tank Module, SIXCON
- 5. TM 09032A-14/1 Operation and Maintenance Instructions with Illustrated Parts List for SIXCON Shipping Frame
- 6. TM 09444A/08990A-15&P/1 Operation and Maintenance Instructions with Repair Parts List and Components List for SIXCON Water Pump Module and SIXCON Water Tank Module
- 7. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 8. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Degraded/deadlined SIXCON Water Tank Module [B2086]

#### MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

1171-MANT-1478: Repair a 3,000 Gallon Capacity Collapsible Fabric Water Tank

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With degraded/deadlined equipment, repair patches/plugs, tools, and references.

STANDARD: So equipment functions as specified in TM 01034E-12&P/1.

### PERFORMANCE STEPS:

- 1. Review equipment technical manuals.
- 2. Don Personal Protective Equipment (PPE).
- 3. Prepare area(s) for patch/plug.
- 4. Attach patch/plug.
- 5. Test repairs.

### PREREQUISITE EVENTS:

1171-ADMN-1006 1171-ADMN-1008 1171-MANT-1278

## RELATED EVENTS:

1171-MANT-1441 1171-MANT-1484 1171-MANT-1485

### REFERENCES:

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. SL-3-01034 Components List for Tank, Fabric, Collapsible, Water Storage, 3,000 Gallon
- 4. TM 01034E-12&P/1 Operator's and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Tank, Fabric, Collapsible, Water Storage, 3,000 Gallons
- 5. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools

## **SUPPORT REQUIREMENTS:**

## **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Degraded/deadlined 3,000 Gallon Capacity Collapsible Fabric Water Tank
[B2130]

### MATERIAL:

SL-3 Components

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

#### 1171-MANT-1479: Repair a 600 GPM Water Pump

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, personnel, repair parts from layette, tools, forms, and references.

STANDARD: So equipment functions/operates as specified in TM 11986A-OI/1 and repairs are documented per TM 4700-15/1H.

### PERFORMANCE STEPS:

- Identify FIRE/EXPLOSION HAZARD(S).
- 2. Identify CARBON MONOXIDE HAZARD(S).
- 3. Review Service Request (SR).
- 4. Inventory parts from layette.
- 5. Review equipment technical manuals.
- 6. Don Personal Protective Equipment (PPE).
- 7. Ensure stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 8. Remove faulty part(s).
- 9. Prepare area(s) for new part(s).
- 10. Attach new part(s), making necessary adjustments.
- 11. Test repairs.
- 12. Document repairs.

## PREREQUISITE EVENTS:

1171-ADMN-1002 1171-ADMN-1001 1171-ADMN-1006 1171-ADMN-1008 1171-ADMN-1011 1171-MANT-1379

**RELATED EVENTS:** 1171-MANT-1279

### **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 4. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 5. TM 11986A-OI/1 Operation and Maintenance Manual with Repair Parts List (RPL) for Pump Assembly, Water: Diesel-Engine-Driven (DED), 600 GPM, Model 600GPMWCPT
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Degraded/deadlined 600 GPM Water Pump [B2394]

## MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

Fuel

1171-MANT-1482: Repair a TWPS

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

#### **DESCRIPTION:**

TWPS is 1,500 GPH Tactical Water Purification System. GPH is Gallons per Hour.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, a 416VAC 60Hz 3-Phase electrical power source, repair parts from layette, tools, forms, and references.

**STANDARD:** So equipment functions/operates as specified in TM 10802A-OI/1A Vol 1 and repairs are documented per TM 4700-15/1H.

## PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify CHEMICAL HAZARD(S).
- Identify FIRE/EXPLOSION HAZARD(S).
- 4. Identify CARBON MONOXIDE HAZARD(S).
- 5. Identify GRAYWATER HAZARD(S).
- 6. Review Service Request (SR).
- 7. Inventory parts from layette.
- 8. Review equipment technical manuals.
- 9. Don Personal Protective Equipment (PPE).
- 10. Ensure equipment is grounded.
- 11. Ensure stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 12. Remove faulty part(s).
- 13. Prepare area(s) for new part(s).
- 14. Attach new part(s), making necessary adjustments.
- 15. Test repairs.
- 16. Document repairs.

### PREREQUISITE EVENTS:

| 1171-ADMN-1001 | 1171-ADMN-1002 | 1171-ADMN-1006 |
|----------------|----------------|----------------|
| 1171-ADMN-1008 | 1171-ADMN-1011 | 1171-MANT-1382 |

### RELATED EVENTS:

1142-MANT-2383 1171-MANT-1282 1171-MANT-2397

#### REFERENCES:

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. SI 10802A-IN/1 Warranty Procedures for the Marine Corps Tactical Water Purification System (TWPS)
- 4. SI 10802A-OR/3 Supply Instructions for the TWPS Recirculation Kit
- 5. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 6. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 7. TM 10802A-OI/1A Vol 1 Operator Manual for Tactical Water Purification System (TWPS)
- 8. TM 10802A-OI/1A Vol 2 Field Maintenance Manual for Tactical Water Purification System (TWPS)
- 9. TM 10802A-OI/2A Field Maintenance Repair Parts and Special Tools List for Tactical Water Purification System (TWPS)
- 10. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Degraded/deadlined 1,500 GPH Tactical Water Purification System (TWPS)
[B2605]

#### MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

<u>UNITS/PERSONNEL</u>: Three licensed Water Support Technicians (MOS 1171) are required to set up and operate the TWPS. An Electrician (MOS 1141) is required to hook up and operate the generator.

OTHER SUPPORT REQUIREMENTS: 416VAC 60Hz 3-Phase electrical power source (normally a 60kW Tactical Generator)

1171-MANT-1484: Repair a 50,000 Gallon Capacity Collapsible Fabric Potable Water Tank

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 24 months

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, tools, forms, and

references.

<u>STANDARD</u>: So equipment functions/operates as specified in TM 5-5430-211-13&P and repairs are documented per TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Review Service Request (SR).
- 2. Inventory parts from layette.
- 3. Review equipment technical manuals.
- 4. Don Personal Protective Equipment (PPE).
- 5. Remove faulty part(s), if required.
- 6. Prepare area(s) for new part(s)/patch/plug.
- 7. Attach new part(s)/patch/plug, making necessary adjustments.
- 8. Test repairs.
- 9. Document repairs.

### PREREQUISITE EVENTS:

1171-ADMN-1006 1171-ADMN-1008 1171-ADMN-1011 1171-MANT-1284

### RELATED EVENTS:

1171-MANT-1441 1171-MANT-1478 1171-MANT-1485

#### **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. TM 5-5430-211-13&P Operator's, Organizational and Direct Support Maintenance Manual, Including Repair Parts and Special Tools List for Tank, Fabric, Collapsible, Pillow Type, 50,000 Gallons, Drinking Water

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Degraded/deadlined 50,000 Gallon Capacity Collapsible Fabric Potable Water Tank [B2631]

#### MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

1171-MANT-1485: Repair a 20,000 Gallon Capacity Collapsible Fabric Potable Water Tank

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 24 months

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

### INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, tools, forms, and references.

**STANDARD:** So equipment functions/operates as specified in TM 5-5430-216-13&P and repairs are documented per TM 4700-15/1H.

### PERFORMANCE STEPS:

- 1. Review Service Request (SR).
- 2. Inventory parts from layette.
- 3. Review equipment technical manuals.
- 4. Don Personal Protective Equipment (PPE).
- 5. Remove faulty part(s), if required.
- 6. Prepare area(s) for new part(s)/patch/plug.
- 7. Attach new part(s)/patch/plug, making necessary adjustments.
- 8. Test repairs.
- 9. Document repairs.

### PREREQUISITE EVENTS:

1171-ADMN-1006 1171-ADMN-1008 1171-ADMN-1011 1171-MANT-1285

# RELATED EVENTS:

1171-MANT-1441 1171-MANT-1478 1171-MANT-1484

#### **REFERENCES:**

- 1. GAC Manual 519-91-2 Goodyear Aerospace Corporation Manual for 20,000 Gallon Collapsible Tank, Potable Water
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. SL-4-06999A Repair Parts List for Tank Assembly, Fabric, Collapsible: 20,000 Gallon Capacity
- 5. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures
- 7. TM 5-5430-216-13&P Tank, Fabric, Collapsible 20,000 Gallon, Water

# SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Degraded/deadlined 20,000 Gallon Capacity Collapsible Fabric Potable Water Tank [B2632]

#### MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

1171-XENG-1604: Establish a water purification site

NAVMC 3500.12B 22 Jan 2014

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With water reconnaissance report, water support plan and established Course of Action (COA), equipment, personnel, material, and references.

STANDARD: So unit's mission is supported per the commander's intent and water purification equipment is set up in accordance with equipment technical manuals.

### PERFORMANCE STEPS:

- 1. Identify CHEMICAL HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Review water reconnaissance report.
- 4. Review water support plan and Course of Action (COA).
- 5. Review references.
- 6. Reassess operational risk.
- 7. Don Personal Protective Equipment (PPE).
- 8. Prepare site, making provisions for traffic.
- 9. Set up water purification equipment and accessories.
- 10. Camouflage equipment and accessories.
- 11. Develop waste water disposal system.
- 12. Provide for security.

PREREQUISITE EVENTS: 1171-ADMN-1001

### RELATED EVENTS:

1171-XENG-1733 1171-XENG-1782

### REFERENCES:

- 1. FM 10-52 Water Supply in Theaters of Operation
- 2. FM 10-52-1 Water Supply Point Equipment and Operations
- 3. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 4. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 5. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 6. TM 01034E-12&P/1 Operator's and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Tank, Fabric, Collapsible, Water Storage, 3,000 Gallons
- 7. TM 10802A-OI/1A Vol 1 Operator Manual for Tactical Water Purification System (TWPS)
- 8. TM 10802A-OI/1A Vol 2 Field Maintenance Manual for Tactical Water Purification System (TWPS)
- 9. TM 10802A-OI/2A Field Maintenance Repair Parts and Special Tools List for Tactical Water Purification System (TWPS)
- 10. TM 11720A-OI Operator/Maintenance Manual with Repair Parts and Special Tools List (RPSTL) for Lightweight Water Purification System (LWPS)
- 11. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control

and Safety

### SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Water Quality Analysis Set, Purification (WQAS-P) [B2630]

Forklift (with capacity to lift designated water purification equipment)

Earthmoving equipment (if required to prepare site)

Electric power generation and distribution equipment (if required)

Water purification equipment as designated by the water support plan

#### MATERIAL:

DA Form 1712-R (Water Reconnaissance Report)

Water support plan with established Course of Action (COA)

### UNITS/PERSONNEL:

MOS 1345 (Engineer Equipment Operator) to prepare site and move water purification equipment

MOS 1141 (Electrician) to establish electrical power support (if required)

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for site development.

1171-XENG-1605: Install field waste water disposal devices

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With field waste water disposal plan and established Course of Action (COA), equipment, personnel, and references.

**STANDARD:** So unit's mission is supported per the commander's intent and waste water is disposed of in accordance with the references.

- 1. Review field waste water disposal plan and Course of Action (COA).
- 2. Review references.
- 3. Reassess operational risk.
- 4. Don Personal Protective Equipment (PPE).
- 5. Prepare site(s), making provisions for traffic.
- 6. Set up sanitation devices.
- 7. Install warning signs.
- 8. Camouflage sanitation devices.

9. Provide for security.

PREREQUISITE EVENTS: 1171-ADMN-1001

**RELATED EVENTS:** 1171-XENG-1805

#### **REFERENCES:**

- 1. INSTALLATION SOP Installation's Standing Operating Procedures
- 2. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 3. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 4. MCRP 4-11.1D Field Hygiene and Sanitation
- 5. MCRP 4-11B Environmental Considerations
- 6. TB MED 593 Guidelines for Field Waste Management

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Earthmoving equipment (if required to prepare site)

Equipment designated by the field waste water disposal plan

MATERIAL: Field waste water disposal plan with established Course of Action (COA)

### UNITS/PERSONNEL:

MOS 1345 (Engineer Equipment Operator) to prepare site
MOS 1371 (Combat Engineer) to construct sanitation devices

OTHER SUPPORT REQUIREMENTS: Marines of any MOS can assist in establishing and maintaining sanitary devices

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for site development.

1171-XENG-1631: Establish a shower site

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Water Support Technician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With hygiene equipment support plan and established Course of Action (COA), equipment, personnel, 120/208VAC 60Hz electrical power source(s), area lighting, and references.

STANDARD: So unit's mission is supported per the commander's intent and Bare

Base Shower Facilities are set up in accordance with TM 10006A-14&P/1.

### PERFORMANCE STEPS:

- 1. Review hygiene equipment support plan and Course of Action (COA).
- 2. Review references.
- 3. Reassess operational risk.
- 4. Don Personal Protective Equipment (PPE).
- 5. Prepare site, making provisions for traffic.
- 6. Set up shower facilities and accessories.
- 7. Camouflage equipment and accessories.
- 8. Develop shower waste water disposal system.
- 9. Provide for security.

**PREREQUISITE EVENTS:** 1171-ADMN-1001

#### RELATED EVENTS:

1171-XENG-1605 1171-XENG-1678 1171-XENG-1731

#### **REFERENCES:**

- 1. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 2. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 3. MCRP 4-11.1D Field Hygiene and Sanitation
- 4. MCRP 4-11B Environmental Considerations
- 5. SL-3-01034 Components List for Tank, Fabric, Collapsible, Water Storage, 3,000 Gallon
- 6. SL-3-10006A Components List for Bath Shower Unit, Expedition
- 7. TB MED 593 Guidelines for Field Waste Management
- 8. TM 01034E-12&P/1 Operator's and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Tank, Fabric, Collapsible, Water Storage, 3,000 Gallons
- 9. TM 10006A-14&P/14 Erection, Operation, Storage, Inspection and Maintenance Instructions with Illustrated Parts Breakdown for Shower Facility, Bare Base
- 10. TM 10-4520-259-13&P Operator's, Unit and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Heater, Water, Liquid Fuel, Models M-80 and M-85
- 11. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

### SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Forklift (with capacity to lift Bare Base Shower Facility)

Earthmoving equipment (if required to prepare site)

Shower Facility, Bare Base [B0055] (quantity as designated by the hygiene support plan)

3,000 Gallon Capacity Collapsible Fabric Water Tank [B2130] (quantity as designated by the hygiene support plan)

MATERIAL: Hygiene equipment support plan with established Course of Action (COA)

# UNITS/PERSONNEL:

MOS 1345 (Engineer Equipment Operator) to prepare site and move shower Facilities

MOS 1141 (Electrician) to establish electrical power support and area lighting

# OTHER SUPPORT REQUIREMENTS:

115VAC 60Hz electrical power source (normally one 10kW Tactical Generator for one shower facility)

Area lighting (normally a floodlight set [B0640])

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for site development.

1171-XENG-1632: Establish a laundry site

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With hygiene equipment support plan and established Course of Action (COA), equipment, personnel, 120/208VAC 60Hz electrical power source(s), area lighting, and references.

<u>STANDARD</u>: So unit's mission is supported per the commander's intent and Containerized Batch Laundry (CBL) Units are set up in accordance with TM 11413A-OI/1.

## PERFORMANCE STEPS:

- 1. Review hygiene equipment support plan and Course of Action (COA).
- 2. Review references.
- 3. Reassess operational risk.
- 4. Don Personal Protective Equipment (PPE).
- 5. Prepare site, making provisions for traffic.
- 6. Set up laundry units and accessories.
- 7. Camouflage equipment and accessories.
- 8. Develop laundry waste water disposal system.
- 9. Provide for security.

PREREQUISITE EVENTS: 1171-ADMN-1001

# RELATED EVENTS:

1171-XENG-1605 1171-XENG-1678 1171-XENG-1732

# REFERENCES:

1. MCRP 3-17.6A Camouflage, Concealment, and Decoys

- 2. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 3. MCRP 4-11.1D Field Hygiene and Sanitation
- 4. MCRP 4-11B Environmental Considerations
- 5. SL-3-01034 Components List for Tank, Fabric, Collapsible, Water Storage, 3,000 Gallon
- 6. TB MED 593 Guidelines for Field Waste Management
- 7. TM 01034E-12&P/1 Operator's and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Tank, Fabric, Collapsible, Water Storage, 3,000 Gallons
- 8. TM 10-4520-259-13&P Operator's, Unit and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Heater, Water, Liquid Fuel, Models M-80 and M-85
- 9. TM 10-4630-206-12&P Operator and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Sewage Ejection Pump (SEP)
- 10. TM 10-8340-240-12&P Operator's and Unit Maintenance Manual, Including Repair Parts and Special Tools List for Modular General Purpose Tent System (MGPTS)
- 11. TM 11413A-OI/1 Operator/Maintenance Manual Instructions with Repair Parts and Special Tools List (RPSTL) for Containerized Batch Laundry
- 12. TM 55-8115-204-23&P Unit and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for General Cargo Container
- 13. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Forklift (with capacity to lift Containerized Batch Laundry (CBL) Unit) Earthmoving equipment (if required to prepare site)

Containerized Batch Laundry (CBL) Unit [B0066] (quantity as designated by the hygiene support plan)

3,000 Gallon Capacity Collapsible Fabric Water Tank [B2130] (quantity as designated by the hygiene support plan)

<u>MATERIAL</u>: Hygiene equipment support plan with established Course of Action (COA)

## UNITS/PERSONNEL:

 ${\tt MOS}\ 1345$  (Engineer Equipment Operator) to prepare site and move laundry  ${\tt Units}$ 

MOS 1141 (Electrician) to establish electrical power support and area lighting

## OTHER SUPPORT REQUIREMENTS:

120/208VAC 60Hz electrical power source (normally one 100kW MEP-807A Tactical Quiet Generator for one laundry unit)
Area lighting (normally a floodlight set [B0640])

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for site

development.

1171-XENG-1648: Establish a water supply point

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With water support plan and established Course of Action (COA), equipment, personnel, and references.

**STANDARD:** So water supply point distribution will support unit's mission per the commander's intent and is set up in accordance with FM 10-52-1 and equipment technical manuals.

## PERFORMANCE STEPS:

- 1. Review water support plan and Course of Action (COA).
- 2. Review references.
- 3. Reassess operational risk.
- 4. Don Personal Protective Equipment (PPE).
- 5. Prepare site, making provisions for traffic.
- 6. Set up water supply point equipment and accessories.
- 7. Camouflage equipment and accessories.
- 8. Provide for security.

PREREQUISITE EVENTS: 1171-ADMN-1001

# RELATED EVENTS:

| 1171-XENG-1604 | 1171-XENG-1677 | 1171-XENG-1678 |
|----------------|----------------|----------------|
| 1171-XENG-1680 | 1171-XENG-1684 | 1171-XENG-1685 |
| 1171-XENG-1733 | 1171-XENG-1748 | 1171-XENG-1771 |
| 1171-XENG-1772 | 1171-XENG-1774 | 1171-XENG-1779 |
| 1171-XENG-1782 |                |                |

# REFERENCES:

- 1. FM 10-52 Water Supply in Theaters of Operation
- 2. FM 10-52-1 Water Supply Point Equipment and Operations
- 3. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 4. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 5. MCWP 4-11 Tactical-Level Logistics
- 6. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 7. TM 01034E-12&P/1 Operator's and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Tank, Fabric, Collapsible, Water Storage, 3,000 Gallons
- 8. TM 08922A-14/1 Operator's Organizational, Direct Support and General Support Maintenance Manual for Pump Unit, Centrifugal, Self-Priming, 125 GPM, Class 3, Diesel Driven
- 9. TM 08936A-13&P/1 Operator's, Organizational, and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Forward Area Water Point Supply System (FAWPSS)

- 10. TM 09032A-14/1 Operation and Maintenance Instructions with Illustrated Parts List for SIXCON Shipping Frame
- 11. TM 09444A/08990A-15&P/1 Operation and Maintenance Instructions with Repair Parts List and Components List for SIXCON Water Pump Module and SIXCON Water Tank Module
- 12. TM 10-4320-346-12&P Operator's and Unit Maintenance Manual Including Repair Parts and Special Tools List for Forward Area Water Point Supply System
- 13. TM 10-8110-202-10-HR Hand Receipt Covering Contents of Components of End Item (COEI), Basic Issue Items (BII), and Additional Authorization List (AAL) for Drum, Fabric, Collapsible, Drinking Water, 500 Gallon Capacity
- 14. TM 10-8110-202-13&P Operator's, Organizational, and Direct Support Maintenance Manual and Repair Parts and Special Tools List for Drum, Fabric, Collapsible, Drinking Water, 500 Gallon Capacity
- 15. TM 4320-14/1 Operator, Unit, Direct Support, and General Support Maintenance for Pump Unit, Centrifugal, Self-Priming, 125 GPM, Water, Class 3, Diesel-Driven
- 16. TM 4320-OI Operation and Maintenance Manual with Repair Parts List for Pump, Centrifugal, Fuel, 150 GPM; and Pump, Centrifugal, Water, 150 GPM [Hatz]

# SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Forklift (with capacity to lift water supply point equipment)

Earthmoving equipment (if required to prepare site)

Water supply point equipment designated by the water support plan

MATERIAL: Water support plan with established Course of Action (COA)

<u>UNITS/PERSONNEL</u>: MOS 1345 (Engineer Equipment Operator) to prepare site and move water support equipment

# **MISCELLANEOUS:**

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for site development.

1171-XENG-1677: Set up SIXCON Water Tank Modules

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With water support plan and established Course of Action (COA), equipment, personnel, and references.

**STANDARD:** So SIXCON Water Tank Modules will provide required support to unit's water supply mission per the commander's intent and are set up in accordance with TM 09444A/08990A-15&P/1.

# PERFORMANCE STEPS:

- 1. Review water support plan and Course of Action (COA).
- 2. Review references.
- 3. Reassess operational risk.
- 4. Don Personal Protective Equipment (PPE).
- 5. Prepare site, making provisions for traffic.
- 6. Stage/assemble water tank modules and accessories.
- 7. Camouflage water tank modules and accessories.
- 8. Provide for security.

PREREQUISITE EVENTS: 1171-ADMN-1001

**RELATED EVENTS:** 1171-XENG-1648

## **REFERENCES:**

- 1. FM 10-52 Water Supply in Theaters of Operation
- 2. FM 10-52-1 Water Supply Point Equipment and Operations
- 3. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 4. MCWP 4-11 Tactical-Level Logistics
- 5. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 6. SL-3-08990A Components List for Module, Water Tank (SIXCON)
- 7. TM 09032A-14/1 Operation and Maintenance Instructions with Illustrated Parts List for SIXCON Shipping Frame
- 8. TM 09444A/08990A-15&P/1 Operation and Maintenance Instructions with Repair Parts List and Components List for SIXCON Water Pump Module and SIXCON Water Tank Module

# SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Forklift (with capacity to lift full water tank modules)

Earthmoving equipment (if required to prepare site)

SIXCON water tank modules [B2086] (quantity as designated by the water support plan)

MATERIAL: Water support plan with established Course of Action (COA)

<u>UNITS/PERSONNEL</u>: MOS 1345 (Engineer Equipment Operator) to prepare site and move water tank modules

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for setting up water tank modules.

1171-XENG-1678: Set up a 3,000 Gallon Capacity Collapsible Fabric Water Tank

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With water support plan and established Course of Action (COA), equipment, personnel, and references.

**STANDARD:** So unit's mission is supported per the commander's intent and water tank is set up in accordance with TM 01034E-12&P/1.

## PERFORMANCE STEPS:

- 1. Review water support plan and Course of Action (COA).
- 2. Review references.
- 3. Reassess operational risk.
- 4. Don Personal Protective Equipment (PPE).
- 5. Prepare site.
- 6. Set up water tank and accessories.
- 7. Camouflage water tank and accessories.
- 8. Provide for security.

**PREREQUISITE EVENTS:** 1171-ADMN-1001

# RELATED EVENTS:

| 1171-XENG-1604 | 1171-XENG-1631 | 1171-XENG-1632 |
|----------------|----------------|----------------|
| 1171-XENG-1648 | 1171-XENG-1684 | 1171-XENG-1685 |

## **REFERENCES:**

- 1. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- SL-3-01034 Components List for Tank, Fabric, Collapsible, Water Storage, 3,000 Gallon
- 3. TM 01034E-12&P/1 Operator's and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Tank, Fabric, Collapsible, Water Storage, 3,000 Gallons

# SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Forklift (with capacity to lift water tank)
Earthmoving equipment (if required to prepare site)
3,000 Gallon Capacity Collapsible Fabric Water Tank [B2130]

MATERIAL: Water support plan with established Course of Action (COA)

UNITS/PERSONNEL: MOS 1345 (Engineer Equipment Operator) to prepare site
and move water tank

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for setting up water tank.

# 1171-XFNG-1680: Set up a TWDS

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: A TWDS is a Tactical Water Distribution System.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With water support plan and established Course of Action (COA), equipment, personnel, and references.

**STANDARD:** So water distribution system will support unit's mission per the commander's intent and is set up in accordance with equipment technical manuals.

## PERFORMANCE STEPS:

- 1. Review water support plan and Course of Action (COA).
- 2. Review references.
- 3. Reassess operational risk.
- 4. Don Personal Protective Equipment (PPE).
- 5. Prepare sites, making provisions for traffic.
- 6. Set up water pumping station(s).
- 7. Set up water storage area(s).
- 8. Connect pumping stations and storage tank(s) using hoses.
- Connect distribution system to water purification site(s) and supply point(s).
- 10. Camouflage equipment and accessories.
- 11. Provide for security.

# **PREREQUISITE EVENTS:** 1171-ADMN-1001

## **RELATED EVENTS:**

| 1171-XENG-1604 | 1171-XENG-1648 | 1171-XENG-1678 |
|----------------|----------------|----------------|
| 1171-XENG-1684 | 1171-XENG-1685 | 1171-XENG-1748 |
| 1171-XENG-1771 | 1171-XENG-1782 |                |

#### REFERENCES:

- 1. FM 10-52 Water Supply in Theaters of Operation
- 2. FM 10-52-1 Water Supply Point Equipment and Operations
- 3. GAC Manual 519-91-2 Goodyear Aerospace Corporation Manual for 20,000 Gallon Collapsible Tank, Potable Water
- 4. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 5. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 6. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 7. MCRP 4-11B Environmental Considerations
- 8. MCWP 4-11 Tactical-Level Logistics

- 9. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 10. SL-3-00970D Components List for Pump Unit Set
- 11. SL-3-01034 Components List for Tank, Fabric, Collapsible, Water Storage, 3,000 Gallon
- 12. SL-3-09481A Components List for Connection Set, Hose
- 13. SL-3-09483A Components List for Connection Kit, Hose Nozzle
- 14. SL-3-09484A Components List for Connection Kit, 125 GPM Pump
- 15. SL-3-09495A Components List for Connection Kit, Tank
- 16. SL-3-09496A Components List for Kit, Spare Parts, Tank
- 17. SL-3-09536A Components List for Distribution Point
- 18. SL-3-09537A Components List for Connection Kit, Bag
- 19. SL-3-09538A Components List for Storage Assembly
- 20. SL-3-09539A Components List for Pumping Station
- 21. SL-3-09563A Components List for Interconnection Kit
- 22. SL-3-09721A Components List for Connection Set, Hose
- 23. SL-3-09854A Components List for 10 Mile Segment Kit
- 24. TM 01034E-12&P/1 Operator's and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Tank, Fabric, Collapsible, Water Storage, 3,000 Gallons
- 25. TM 08922A-14/1 Operator's Organizational, Direct Support and General Support Maintenance Manual for Pump Unit, Centrifugal, Self-Priming, 125 GPM, Class 3, Diesel Driven
- $26.\ \mathrm{TM}\ 09476\mathrm{B-}13/1\ \mathrm{Operator},\ \mathrm{Unit},\ \mathrm{and}\ \mathrm{Direct}\ \mathrm{Support}\ \mathrm{Maintenance}\ \mathrm{Manual}\ \mathrm{for}\ \mathrm{Hypochlorination}\ \mathrm{Unit}$
- 27. TM 10-4320-303-13 Operator's, Unit and Direct Support Maintenance Manual for Tactical Water Distribution Equipment System (TWDS) Set, 10-Mile Segment
- 28. TM 10-4320-317-13 Operator's, Unit, and Direct Support Maintenance Manual for Tactical Water Distribution Equipment System, 10 Mile Segment
- 29. TM 10-4320-325-14 Operator, Unit, Direct Support, and General Support Maintenance Manual for Pump Unit, Centrifugal, Diesel-Driven, Self-Priming, 125 GPM, Water, Class III
- 30. TM 11986A-OI/1 Operation and Maintenance Manual with Repair Parts List (RPL) for Pump Assembly, Water: Diesel-Engine-Driven (DED), 600 GPM, Model 600GPMWCPT
- 31. TM 4320-14/1 Operator, Unit, Direct Support, and General Support Maintenance for Pump Unit, Centrifugal, Self-Priming, 125 GPM, Water, Class 3, Diesel-Driven
- 32. TM 4320-OI Operation and Maintenance Manual with Repair Parts List for Pump, Centrifugal, Fuel, 150 GPM; and Pump, Centrifugal, Water, 150 GPM [Hatz]
- 33. TM 5-5430-211-13&P Operator's, Organizational and Direct Support Maintenance Manual, Including Repair Parts and Special Tools List for Tank, Fabric, Collapsible, Pillow Type, 50,000 Gallons, Drinking Water
- 34. TM 5-5430-216-13&P Tank, Fabric, Collapsible 20,000 Gallon, Water

## SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]

Truck(s) (to transport water distribution system components and hoses) Forklift (with capacity to move water distribution system components) Earthmoving equipment (if required to prepare system sites)

260CFM Air Compressor and Pneumatic Tool Outfit [B0395] (to evacuate and displace water/air from hoses during retrograde)

Water distribution system components/equipment designated by the water support plan

MATERIAL: Water support plan with established Course of Action (COA)

## UNITS/PERSONNEL:

MOS 1345 (Engineer Equipment Operator) to prepare sites and move water distribution system components/equipment

MOS 3531 (Motor Vehicle Operator) or MOS 3533 (Logistics Vehicle System Operator) to transport components/hoses

## MISCELLANEOUS:

# ADMINISTRATIVE INSTRUCTIONS:

Tactical situation, ORA and other changes encountered at different sites may ultimately determine final COA for system development.

Craduates of the Rasia Water Support Tackhigian Course (CID: M031102) are

Graduates of the Basic Water Support Technician Course (CID: M031102) are licensed to set up and operate a Tactical Water Distribution System (TWDS).

SPECIAL PERSONNEL CERTS: Operators must be licensed to set up and operate a Tactical Water Distribution System (TWDS).

1171-XENG-1684: Set up a 50,000 Gallon Capacity Collapsible Fabric Potable Water Tank

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With water support plan and established Course of Action (COA), equipment, personnel, and references.

**STANDARD:** So unit's mission is supported per the commander's intent and water tank is set up in accordance with TM 5-5430-211-13&P.

#### PERFORMANCE STEPS:

- 1. Review water support plan and Course of Action (COA).
- 2. Review references.
- 3. Reassess operational risk.
- 4. Don Personal Protective Equipment (PPE).
- 5. Prepare site.
- 6. Set up water tank and accessories.
- 7. Camouflage water tank and accessories.
- 8. Provide for security.

PREREQUISITE EVENTS: 1171-ADMN-1001

# RELATED EVENTS:

1171-XENG-1678 1171-XENG-1680 1171-XENG-1685

# REFERENCES:

- 1. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- SL-3-10761A Tank, Fabric, Collapsible w/Chest, Fuel, 50,000 Gallon Capacity
- 3. TM 5-5430-211-13&P Operator's, Organizational and Direct Support Maintenance Manual, Including Repair Parts and Special Tools List for Tank, Fabric, Collapsible, Pillow Type, 50,000 Gallons, Drinking Water

## SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Forklift (with capacity to lift water tank)
Earthmoving equipment (if required to prepare site)
50,000 Gallon Capacity Collapsible Fabric Potable Water Tank [B2631]

MATERIAL: Water support plan with established Course of Action (COA)

<u>UNITS/PERSONNEL</u>: MOS 1345 (Engineer Equipment Operator) to prepare site and move water tank

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for setting up water tank.

1171-XENG-1685: Set up a 20,000 Gallon Capacity Collapsible Fabric Potable Water Tank

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With water support plan and established Course of Action (COA), equipment, personnel, and references.

**STANDARD:** So unit's mission is supported per the commander's intent and water tank is set up in accordance with TM 5-5430-216-13&P.

# PERFORMANCE STEPS:

- 1. Review water support plan and Course of Action (COA).
- 2. Review references.
- 3. Reassess operational risk.
- 4. Don Personal Protective Equipment (PPE).

- 5. Prepare site.
- 6. Set up water tank and accessories.
- 7. Camouflage water tank and accessories.
- 8. Provide for security.

**PREREQUISITE EVENTS:** 1171-ADMN-1001

## RELATED EVENTS:

1171-XENG-1648 1171-XENG-1678 1171-XENG-1680

1171-XENG-1684

## **REFERENCES:**

1. GAC Manual 519-91-2 Goodyear Aerospace Corporation Manual for 20,000 Gallon Collapsible Tank, Potable Water

- 2. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 3. TM 5-5430-216-13&P Tank, Fabric, Collapsible 20,000 Gallon, Water

# SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Forklift (with capacity to lift water tank)

Earthmoving equipment (if required to prepare site)

20,000 Gallon Capacity Collapsible Fabric Potable Water Tank [B2632]

MATERIAL: Water support plan with established Course of Action (COA)

<u>UNITS/PERSONNEL</u>: MOS 1345 (Engineer Equipment Operator) to prepare site and move water tank

#### **MISCELLANEOUS:**

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for setting up water tank.

**1171-XENG-1702:** Test water

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With water sample(s), water testing equipment, and references.

**STANDARD:** So water quality is determined per TM 10-6630-222-12&P and test results are recorded.

# PERFORMANCE STEPS:

1. Identify CHEMICAL HAZARD(S).

- 2. Review references.
- 3. Don Personal Protective Equipment (PPE).
- 4. Inventory test kit.
- 5. Calibrate test equipment.
- 6. Perform Total Dissolved Solids (TDS) test.
- 7. Record water temperature.
- 8. Perform chlorine residual test.
- 9. Perform pH value test.
- 10. Perform turbidity test.
- 11. Document test results.

**PREREQUISITE EVENTS:** 1171-ADMN-1007

## RELATED EVENTS:

1171-XENG-2501 1171-XENG-2651 1171-XENG-2752 1171-XENG-2753 1171-XENG-2754

# **REFERENCES:**

- 1. FM 10-52 Water Supply in Theaters of Operation
- 2. FM 10-52-1 Water Supply Point Equipment and Operations
- 3. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 4. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 5. TM 10-6630-222-12&P Operator and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Water Quality Analysis Set: Purification (WQAS-P)
- 6. TM 3-6665-319-10 Operator's Manual for Water Testing Kit, Chemical Agents: M272
- 7. ULSS 009091-15A User's Logistics Support Summary for Water Quality Analysis Set, Purification (WQAS-P)

# SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)
Water Quality Analysis Set, Purification (WQAS-P) [B2630]

MATERIAL: Water sample(s)

UNITS/PERSONNEL: MOS 5711 (Nuclear Biological and Chemical Defense (NBCD)
Specialist) will test water for NBC contamination.

## MISCELLANEOUS:

# ADMINISTRATIVE INSTRUCTIONS:

MOS 5711 (Nuclear Biological and Chemical Defense (NBCD) Specialist) will test water for NBC contamination

Graduates of the Basic Water Support Technician Course (CID: M031102) are licensed operators of the Water Quality Analysis Set, Purification (WQAS-P) [B2630]

**SPECIAL PERSONNEL CERTS:** Operators of the Water Quality Analysis Set, Purification (WQAS-P) [B2630] must be licensed.

1171-XENG-1731: Operate a Bare Base Shower Facility

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: At an established shower site, with hygiene equipment support plan and established Course of Action (COA), equipment, personnel, material, and references.

**STANDARD:** Per TM 10006A-14&P/14, documenting operation in accordance with TM 4700-15/1H and complying with unit's mission requirements.

# PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Identify GRAYWATER HAZARD(S).
- 5. Review hygiene equipment support plan.
- 6. Review references.
- 7. Validate scheduled male/female hours, posting schedule at site.
- 8. Reassess operational risk, ensuring warning signs are posted.
- 9. Don Personal Protective Equipment (PPE).
- 10. Ensure equipment is grounded.
- 11. Check valves/switches/gauges for correct settings.
- 12. Perform before operation checks, including all hose and electrical power cable connections.
- 13. Ensure main water supply hose is connected to water source.
- 14. Ensure main drain hose is routed to established liquid disposal devices.
- 15. Start water supply pump, water heater (when heater tank is filled with water), and drain pump.
- 16. Re-check all hose connections, fixing any leaks.
- 17. Open all shower head control valves, flushing shower manifolds and hoses for at least two minutes.
- 18. Allow supported personnel to shower per the hygiene equipment support plan.
- 19. Enforce water conservation and use restrictions.
- 20. Perform during operation checks/services, adjusting water temperature when required.
- 21. Maintain equipment logs.
- 22. Shut down equipment.
- 23. Perform after operation checks.
- 24. Document equipment operation.
- 25. Pack out equipment for movement/retrograde.

# PREREQUISITE EVENTS:

1171-ADMN-1001 1171-XENG-1631

# RELATED EVENTS:

1171-ADMN-1009 1171-MANT-1231

#### **REFERENCES:**

- 1. MCRP 4-11.1D Field Hygiene and Sanitation
- 2. TM 01034E-12&P/1 Operator's and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Tank, Fabric, Collapsible, Water Storage, 3,000 Gallons
- TM 10006A-14&P/14 Erection, Operation, Storage, Inspection and Maintenance Instructions with Illustrated Parts Breakdown for Shower Facility, Bare Base
- 4. TM 10-4520-259-13&P Operator's, Unit and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Heater, Water, Liquid Fuel, Models M-80 and M-85
- 5. TM 4700-15/1 Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Shower Facility, Bare Base [B0055]

# MATERIAL:

NAVMC 10523 (Engineer Equipment Operational Record)
NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)
Fuel

<u>UNITS/PERSONNEL</u>: MOS 1141 (Electrician) to provide/ensure electrical power support and lighting.

#### OTHER SUPPORT REQUIREMENTS:

120/208 VAC 60Hz electrical power source (normally a 10kW Tactical Generator)

Area lighting (normally a floodlight set [B0640])

Water source (normally provided through a 3,000 gallon capacity collapsible fabric water tank [B2130])

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS:</u> Graduates of the Basic Water Support Technician Course (CID: M031102) are licensed operators of the Shower Facility, Bare Base [B0055].

**SPECIAL PERSONNEL CERTS:** Operators must be licensed to operate the Shower Facility, Bare Base [B0055].

1171-XENG-1732: Operate a CBL

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: CBL is Containerized Batch Laundry Unit.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

# INITIAL TRAINING SETTING: FORMAL

**CONDITION:** At an established laundry site, with hygiene equipment support plan and established Course of Action (COA), equipment, personnel, material, and references.

**STANDARD:** Per TM 11413A-OI/1, documenting operation in accordance with TM 4700-15/1H and complying with unit's mission requirements.

#### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Identify GRAYWATER HAZARD(S).
- 5. Review hygiene equipment support plan.
- 6. Review references.
- 7. Reassess operational risk, ensuring warning signs are posted.
- 8. Don Personal Protective Equipment (PPE).
- 9. Ensure equipment is grounded.
- 10. Check valves/switches/gauges for correct settings.
- 11. Perform before operation checks, including all hose and electrical power cable connections.
- 12. Ensure water supply hoses are connected to water sources.
- 13. Ensure drain hoses are routed to designated liquid disposal devices.
- 14. Start water supply pump, water heater (when heater tank is filled with water), sewage ejection pump, and exhaust fan.
- 15. Re-check all hose connections, fixing any leaks.
- 16. Wash laundry.
- 17. Dry laundry.
- 18. Enforce water conservation and use restrictions.
- 19. Perform during operation checks/services, adjusting water temperature when required.
- 20. Maintain equipment logs.
- 21. Shut down equipment.
- 22. Perform after operation checks.
- 23. Document equipment operation.
- 24. Pack out equipment for movement/retrograde.

# PREREQUISITE EVENTS:

1171-ADMN-1001 1171-XENG-1632

## RELATED EVENTS:

1171-ADMN-1009 1171-MANT-1232

#### REFERENCES:

- 1. MCRP 4-11.1D Field Hygiene and Sanitation
- TM 01034E-12&P/1 Operator's and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Tank, Fabric, Collapsible, Water Storage, 3,000 Gallons
- 3. TM 10-4520-259-13&P Operator's, Unit and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Heater, Water, Liquid Fuel, Models M-80 and M-85

- 4. TM 10-4630-206-12&P Operator and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Sewage Ejection Pump (SEP)
- 5. TM 10-8340-240-12&P Operator's and Unit Maintenance Manual, Including Repair Parts and Special Tools List for Modular General Purpose Tent System (MGPTS)
- 6. TM 11413A-0I/1 Operator/Maintenance Manual Instructions with Repair Parts and Special Tools List (RPSTL) for Containerized Batch Laundry
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures
- 8. TM 55-8115-204-23&P Unit and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for General Cargo Container

## SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Containerized Batch Laundry (CBL) Unit [B0066]

#### MATERIAL:

NAVMC 10523 (Engineer Equipment Operational Record)
NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)
Fuel

<u>UNITS/PERSONNEL</u>: MOS 1141 (Electrician) to provide/ensure electrical power support and lighting

#### OTHER SUPPORT REQUIREMENTS:

120/208VAC 60Hz electrical power source (normally a 100kW MEP-807A Tactical Quiet Generator)

Area lighting (normally a floodlight set [B0640])

Water source (normally provided through a 3,000 gallon capacity collapsible fabric water tank [B2130])

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Graduates of the Basic Water Support Technician Course (CID: M031102) are licensed operators of the Containerized Batch Laundry (CBL) Unit [B0066].

**SPECIAL PERSONNEL CERTS:** Operators must be licensed to operate the Containerized Batch Laundry (CBL) Unit [B0066].

1171-XENG-1733: Operate a LWPS

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

DESCRIPTION: LWPS is Lightweight Water Purification System.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

# INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: At an established water purification site, with water support plan and established Course of Action (COA), equipment, personnel, material, and references.

**STANDARD:** Per TM 11720A-OI, documenting operation in accordance with  $\frac{1}{2}$  4700-15/1H and complying with unit's mission requirements.

#### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S), if cold weather module is being used.
- 2. Identify CHEMICAL HAZARD(S).
- Identify FIRE/EXPLOSION HAZARD(S).
- 4. Identify CARBON MONOXIDE HAZARD(S).
- 5. Review water support plan.
- 6. Review references.
- 7. Reassess operational risk, ensuring warning signs are posted.
- 8. Don Personal Protective Equipment (PPE).
- 9. Ensure equipment is grounded (or bonded to power source), if cold weather module is being used.
- 10. Perform before operation checks.
- 11. Check valves/switches/gauges for correct settings.
- 12. Ensure product water discharge hose is disconnected from product water tank.
- 13. Start up raw water pump.
- 14. Vent air and drain debris from strainer/separator module.
- 15. Adjust water pressure at raw water pump.
- 16. Start up high pressure pump.
- 17. Adjust water pressure at the Reverse Osmosis (RO) module.
- 18. Adjust reject water flow at the RO module.
- 19. Mix chlorine solution slurry.
- 20. Establish chlorine injection.
- 21. Check quality of product water.
- 22. Connect product water discharge hose to product water tank.
- 23. Perform during operation checks/services.
- 24. Maintain equipment logs.
- 25. Shut down equipment per operational situation.
- 26. Perform after operation checks.
- 27. Document equipment operation.
- 28. Pack out equipment for movement/retrograde.

# PREREQUISITE EVENTS:

1171-ADMN-1001 1171-XENG-1604 1171-XENG-1702

# RELATED EVENTS:

1171-ADMN-1009 1171-MANT-1233

### REFERENCES:

- 1. FM 10-52 Water Supply in Theaters of Operation
- 2. FM 10-52-1 Water Supply Point Equipment and Operations
- 3. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 4. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 5. TM 11720A-OI Operator/Maintenance Manual with Repair Parts and Special

Tools List (RPSTL) for Lightweight Water Purification System (LWPS) 6. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Lightweight Water Purification System (LWPS) [B0071]

#### MATERIAL:

LWPS Operation Log
Fuel
Calcium Hypochlorite
Chlorine reagent
Sodium Bisulfite
Antiscalant
High pH (Tergajet) cleaner
Low pH (Citric Acid) cleaner
Coagulant (Aluminum Chloride)

<u>UNITS/PERSONNEL</u>: MOS 1141 (Electrician) to provide/ensure electrical power support during cold weather operation and lighting during night operation.

## OTHER SUPPORT REQUIREMENTS:

120VAC 60Hz Single-Phase electrical power source (normally a 3kW Tactical Generator)

Area lighting (normally a floodlight set [B0640])

Raw water source

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Graduates of the Basic Water Support Technician Course (CID: M031102) are licensed operators of the Lightweight Water Purification System (LWPS) [B0071].

SPECIAL PERSONNEL CERTS: Only Water Support Technicians (MOS 1171) will be licensed to operate a Lightweight Water Purification System (LWPS) [B0071].

1171-XENG-1748: Operate a FAWPSS

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** FAWPSS is Forward Area Water Point Supply System.

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** At an established water supply point, with water support plan and established Course of Action (COA), equipment, personnel, material, and references.

**STANDARD:** Per TM 08936A-13&P/1, documenting operation in accordance with TM 4700-15/1H and complying with unit's mission requirements.

# PERFORMANCE STEPS:

- 1. Identify WATER CONTAMINATION HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review water support plan.
- 5. Review references.
- 6. Reassess operational risk.
- 7. Don Personal Protective Equipment (PPE).
- 8. Check valves/switches for correct settings.
- 9. Perform before operation checks.
- 10. Ensure water supply hoses are connected to pump and drums.
- 11. Ensure dispensing hoses are routed to designated dispensing points.
- 12. Start pump.
- 13. Re-check all hose connections, fixing any leaks.
- 14. Flush the system.
- 15. Test the water at the dispensing point.
- 16. Dispense water in accordance with the water support plan.
- 17. Perform during operation checks/services.
- 18. Maintain equipment logs.
- 19. Shut down equipment.
- 20. Perform after operation checks.
- 21. Document equipment operation.
- 22. Pack out equipment for movement/retrograde.

# PREREQUISITE EVENTS:

1171-ADMN-1001 1171-XENG-1648

# RELATED EVENTS:

1171-ADMN-1009 1171-MANT-1248 1171-XENG-1702

# REFERENCES:

- 1. FM 10-52 Water Supply in Theaters of Operation
- 2. FM 10-52-1 Water Supply Point Equipment and Operations
- 3. TM 08936A-13&P/1 Operator's, Organizational, and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Forward Area Water Point Supply System (FAWPSS)
- 4. TM 10-8110-202-13&P Operator's, Organizational, and Direct Support Maintenance Manual and Repair Parts and Special Tools List for Drum, Fabric, Collapsible, Drinking Water, 500 Gallon Capacity
- 5. TM 4320-OI Operation and Maintenance Manual with Repair Parts List for Pump, Centrifugal, Fuel, 150 GPM; and Pump, Centrifugal, Water, 150 GPM [Hatz]
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Forward Area Water Point Supply System (FAWPSS) [B0676]

#### MATERIAL:

NAVMC 10523 (Engineer Equipment Operational Record)
NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)
Fuel

## **MISCELLANEOUS:**

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Graduates of the Basic Water Support Technician Course (CID: M031102) are licensed operators of the Forward Area Water Point Supply System (FAWPSS) [B0676].

**SPECIAL PERSONNEL CERTS:** Operators must be licensed to operate the Forward Area Water Point Supply System (FAWPSS) [B0676].

1171-XENG-1771: Operate a Hypochlorination Unit

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: At an established water storage or distribution site, with water support plan and established Course of Action (COA), equipment, personnel, material, and references.

**STANDARD:** Per TM 09476B-13/1, documenting operation in accordance with TM 4700-15/1H and complying with unit's mission requirements.

# PERFORMANCE STEPS:

- 1. Identify HYPOCHLORITE HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CHEMICAL BURN HAZARD(S).
- 4. Review water support plan.
- 5. Review references.
- 6. Reassess operational risk.
- 7. Don Personal Protective Equipment (PPE).
- 8. Check valves/switches for correct settings.
- 9. Perform before operation checks.
- 10. Ensure water hoses are connected.
- 11. Perform chlorine residual test on source water.
- 12. Determine chlorine dosage requirement.
- 13. Mix calcium hypochlorite solution, pouring it into hypoclorination unit reservoir.
- 14. Start system water flow.
- 15. Re-check all hose connections, fixing any Class III leaks.
- 16. Perform during operation checks/services.
- 17. Conduct chlorine residual test every 30 minutes, adjusting flow of calcium hypochlorite solution as required.

- 18. Maintain equipment logs.
- 19. Shut down equipment.
- 20. Perform after operation checks.
- 21. Document equipment operation.
- 22. Pack out equipment for movement/retrograde.

**PREREQUISITE EVENTS:** 1171-ADMN-1001

#### RELATED EVENTS:

1171-ADMN-1009 1171-MANT-1271 1171-XENG-1648

1171-XENG-1680 1171-XENG-1702

#### REFERENCES:

- 1. FM 10-52 Water Supply in Theaters of Operation
- 2. FM 10-52-1 Water Supply Point Equipment and Operations
- 3. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 4. TM 09476B-13/1 Operator, Unit, and Direct Support Maintenance Manual for Hypochlorination Unit
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE) General Mechanics Tool Kit (GMTK) [C7915] Hypochlorination Unit [B1140]

## MATERIAL:

NAVMC 10523 (Engineer Equipment Operational Record)
NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)
Hypochlorite

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Graduates of the Basic Water Support Technician Course (CID: M031102) are licensed operators of the Hypochlorination Unit [B1140].

**SPECIAL PERSONNEL CERTS:** Operators must be licensed to operate the Hypochlorination Unit [B1140].

**1171-XENG-1772:** Operate a 125/150 GPM Water Pump (Hatz)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** At an established water support site, with water support plan and established Course of Action (COA), equipment, personnel, material, and references.

**STANDARD:** Per the pump's operation manual, documenting operation in accordance with TM 4700-15/1H and complying with unit's mission requirements.

# PERFORMANCE STEPS:

- 1. Identify FIRE/EXPLOSION HAZARD(S).
- 2. Identify CARBON MONOXIDE HAZARD(S).
- 3. Review water support plan.
- 4. Review references.
- 5. Reassess operational risk.
- 6. Don Personal Protective Equipment (PPE).
- 7. Check valves/switches for correct settings.
- 8. Perform before operation checks.
- 9. Ensure water suction and discharge hoses are connected per water support plan.
- 10. Prime engine.
- 11. Prime pump (if required).
- 12. Start engine.
- 13. Re-check hose connections, fixing any Class III leaks.
- 14. Adjust engine speed for required flow rate.
- 15. Perform during operation checks/services.
- 16. Maintain equipment logs.
- 17. Shut down equipment.
- 18. Perform after operation checks.
- 19. Document equipment operation.
- 20. Pack out equipment for movement/retrograde.

# PREREQUISITE EVENTS: 1171-ADMN-1001

## RELATED EVENTS:

1171-ADMN-1009 1171-MANT-1272 1171-XENG-1648 1171-XENG-1677 1171-XENG-1680 1171-XENG-1748

## **REFERENCES:**

- 1. FM 10-52 Water Supply in Theaters of Operation
- 2. FM 10-52-1 Water Supply Point Equipment and Operations
- 3. TM 08922A-14/1 Operator's Organizational, Direct Support and General Support Maintenance Manual for Pump Unit, Centrifugal, Self-Priming, 125 GPM, Class 3, Diesel Driven
- 4. TM 09444A/08990A-15&P/1 Operation and Maintenance Instructions with Repair Parts List and Components List for SIXCON Water Pump Module and SIXCON Water Tank Module
- 5. TM 4320-OI Operation and Maintenance Manual with Repair Parts List for Pump, Centrifugal, Fuel, 150 GPM; and Pump, Centrifugal, Water, 150 GPM [Hatz]
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7919] 125/150 GPM Water Pump (Hatz) - may be part of SIXCON Pump Module [B1581]

#### MATERIAL:

NAVMC 10523 (Engineer Equipment Operational Record)
NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)
Fuel

## **MISCELLANEOUS:**

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Graduates of the Basic Water Support Technician Course (CID: M031102) are licensed operators of the 125/150 GPM Water Pump (Hatz) [B1581].

SPECIAL PERSONNEL CERTS: Operators must be licensed to operate a 125/150 GPM Water Pump (Hatz) [B1581].

1171-XENG-1774: Operate a 125 GPM Water Pump (Yanmar)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** At an established water support site, with water support plan and established Course of Action (COA), equipment, personnel, material, and references.

**STANDARD:** Per TM 10-4320-325-14, documenting operation in accordance with TM 4700-15/1H and complying with unit's mission requirements.

## PERFORMANCE STEPS:

- 1. Identify FIRE/EXPLOSION HAZARD(S).
- 2. Identify CARBON MONOXIDE HAZARD(S).
- 3. Review water support plan.
- 4. Review references.
- 5. Reassess operational risk.
- 6. Don Personal Protective Equipment (PPE).
- 7. Check valves/switches for correct settings.
- 8. Perform before operation checks.
- 9. Ensure water suction and discharge hoses are connected per water support plan.
- 10. Prime engine.
- 11. Prime pump (if required).
- 12. Start engine.
- 13. Re-check hose connections, fixing any Class III leaks.
- 14. Adjust engine speed for required flow rate.
- 15. Perform during operation checks/services.
- 16. Maintain equipment logs.

- 17. Shut down equipment.
- 18. Perform after operation checks.
- 19. Document equipment operation.
- 20. Pack out equipment for movement/retrograde.

PREREQUISITE EVENTS: 1171-ADMN-1001

# RELATED EVENTS:

1171-ADMN-1009 1171-MANT-1274 1171-XENG-1648 1171-XENG-1680 1171-XENG-1748

#### REFERENCES:

1. FM 10-52 Water Supply in Theaters of Operation

- 2. FM 10-52-1 Water Supply Point Equipment and Operations
- 3. TM 10-4320-325-14 Operator, Unit, Direct Support, and General Support Maintenance Manual for Pump Unit, Centrifugal, Diesel-Driven, Self-Priming, 125 GPM, Water, Class III
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
125 GPM Water Pump (Yanmar) [B1620]

#### MATERIAL:

NAVMC 10523 (Engineer Equipment Operational Record)
NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)
Fuel

# MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Graduates of the Basic Water Support Technician Course (CID: M031102) are licensed operators of the 125 GPM Water Pump (Yanmar) [B1620].

 ${\tt SPECIAL\ PERSONNEL\ CERTS}:$  Operators must be licensed to operate a 125 GPM Water Pump (Yanmar) [B1620].

1171-XENG-1779: Operate a 600 GPM Water Pump

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** At an established water storage/distribution site, with water support plan and established Course of Action (COA), equipment, personnel, material, and references.

**STANDARD:** Per TM 11986A-OI/1, documenting operation in accordance with TM 4700-15/1H and complying with unit's mission requirements.

# PERFORMANCE STEPS:

- 1. Identify FIRE/EXPLOSION HAZARD(S).
- 2. Identify CARBON MONOXIDE HAZARD(S).
- 3. Review water support plan.
- 4. Review references.
- 5. Reassess operational risk.
- 6. Don Personal Protective Equipment (PPE).
- 7. Check valves/switches/gauges for correct settings.
- 8. Perform before operation checks.
- 9. Ensure water suction and discharge hoses are connected per water support plan.
- 10. Prime engine.
- 11. Prime pump.
- 12. Start engine.
- 13. Re-check hose connections, fixing any Class III leaks.
- 14. Adjust engine speed for required flow rate.
- 15. Perform during operation checks/services.
- 16. Maintain equipment logs.
- 17. Shut down equipment.
- 18. Perform after operation checks.
- 19. Document equipment operation.
- 20. Pack out equipment for movement/retrograde.

## PREREQUISITE EVENTS:

1171-ADMN-1001 1171-XENG-1680

#### RELATED EVENTS:

1171-ADMN-1009 1171-MANT-1279 1171-XENG-1648

#### **REFERENCES:**

- TM 11986A-OI/1 Operation and Maintenance Manual with Repair Parts List (RPL) for Pump Assembly, Water: Diesel-Engine-Driven (DED), 600 GPM, Model 600GPMWCPT
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE) General Mechanics Tool Kit (GMTK) [C7915] 600 GPM Water Pump [B2394]

#### MATERIAL:

NAVMC 10523 (Engineer Equipment Operational Record)
NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)
Fuel

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Graduates of the Basic Water Support Technician Course (CID: M031102) are licensed operators of the 600 GPM Water Pump [B2394].

SPECIAL PERSONNEL CERTS: Operators must be licensed to operate a 600 GPM Water Pump [B2394].

1171-XENG-1782: Operate a TWPS

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

#### **DESCRIPTION:**

TWPS is 1,500 GPH Tactical Water Purification System. NOTE: It requires three Water Support Technicians to operate one TWPS. Each technician must know all operational aspects of the TWPS for safe operation.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: At an established water purification site, with water support plan and established Course of Action (COA), equipment, personnel, material, and references.

STANDARD: Per TM 10802A-OI/1A Vol 1 and Vol 2, documenting operation in accordance with TM 4700-15/1H and complying with unit's mission requirements.

## PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify CHEMICAL HAZARD(S).
- 3. Identify FIRE/EXPLOSION HAZARD(S).
- 4. Identify CARBON MONOXIDE HAZARD(S).
- Identify GRAYWATER HAZARD(S).
- 6. Review water support plan.
- 7. Review references.
- 8. Reassess operational risk, ensuring warning signs are posted.
- 9. Don Personal Protective Equipment (PPE).
- 10. Ensure equipment is grounded (or bonded to power source).
- 11. Ensure raw water supply hose intakes are submerged at raw water source.
- 12. Ensure product water distribution system is set up to sustain water support plan.
- 13. Ensure waste water hose is routed as designated by water support plan.
- 14. Perform before operation checks, including all electrical power cable connections.
- 15. Start up air compressor.
- 16. Make sure product water hose is disconnected from the product water distribution tanks.
- 17. Check valves/switches/gauges for correct settings.
- 18. Perform pre-operational diagnostic self-test.
- 19. Start up sodium bisulfite chemical system, if applicable.
- 20. Establish raw water flow.

- 21. Flush preservative/cleaning solution.
- 22. Start up Micro-Filtration (MF) system.
- 23. Start up Reverse Osmosis (RO) system.
- 24. Start up antiscalant and hypochlorite chemical systems.
- 25. Check quality of product water.
- 26. Connect product water hose to product water distribution tanks.
- 27. Re-check all hose connections, fixing any leaks.
- 28. Perform during operation checks/services.
- 29. Maintain equipment logs.
- 30. Shut down equipment per operational situation.
- 31. Perform after operation checks.
- 32. Document equipment operation.
- 33. Pack out equipment for movement/retrograde.

## PREREQUISITE EVENTS:

1171-ADMN-1001 1171-XENG-1604 1171-XENG-1702

# RELATED EVENTS:

1171-ADMN-1009 1171-MANT-1282

## **REFERENCES:**

- 1. FM 10-52 Water Supply in Theaters of Operation
- 2. FM 10-52-1 Water Supply Point Equipment and Operations
- 3. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 4. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 5. TM 10802A-OI/1A Vol 1 Operator Manual for Tactical Water Purification System (TWPS)
- 6. TM 10802A-OI/1A Vol 2 Field Maintenance Manual for Tactical Water Purification System (TWPS)
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

1,500 GPH Tactical Water Purification System (TWPS) [B2605]

#### MATERIAL:

NAVMC 10523 (Engineer Equipment Operational Record)

NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)

Operating Data Log

RO Element Performance Log

Fuel

Calcium Hypochlorite

Bisulfite

Antiscalant

High pH cleaner

Low pH cleaner

Sodium Hydroxide

UNITS/PERSONNEL: Three licensed Water Support Technicians (MOS 1171) are

required to set up and operate the TWPS. An Electrician (MOS 1141) is required to provide/ensure electrical power support and lighting.

# OTHER SUPPORT REQUIREMENTS:

416VAC 60Hz 3-Phase electrical power source (normally a 60kW Tactical Generator)

Area lighting (normally a floodlight set [B0640]) Raw water source

## MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Graduates of the Basic Water Support Technician Course (CID: M031102) are licensed operators of the 1,500 GPH Tactical Water Purification System (TWPS) [B2605].

SPECIAL PERSONNEL CERTS: Operators must be licensed to operate a 1,500 GPH Tactical Water Purification System (TWPS) [B2605].

1171-XENG-1805: Recover/close field waste water disposal devices

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With camp waste water disposal plan and established Course of Action (COA), area map, equipment, personnel, and references.

<u>STANDARD</u>: So reusable devices are recovered and waste areas are covered, marked, and recorded.

# PERFORMANCE STEPS:

- Identify WASTEWATER HAZARD(S).
- 2. Review waste water disposal plan and Course of Action (COA).
- 3. Review references.
- 4. Don Personal Protective Equipment (PPE).
- 5. Recover sanitation devices/warning signs.
- 6. Close sanitation sites.
- 7. Mark closed sites using signs, etc.
- 8. Record closed sites on area map.
- 9. Forward marked map to those concerned.

## PREREQUISITE EVENTS:

1171-ADMN-1001 1171-XENG-1605

# **REFERENCES:**

- 1. INSTALLATION SOP Installation's Standing Operating Procedures
- 2. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 3. MCRP 4-11.1D Field Hygiene and Sanitation
- 4. MCRP 4-11B Environmental Considerations

- 5. TB MED 593 Guidelines for Field Waste Management
- 6. UNIT SOP Unit's Standing Operating Procedures

# **SUPPORT REQUIREMENTS:**

## **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Earthmoving equipment (if required to cover sanitation pits)

## MATERIAL:

Area map

Field waste water disposal plan with established Course of Action (COA)

<u>UNITS/PERSONNEL</u>: MOS 1345 (Engineer Equipment Operator) for earth moving requirements

OTHER SUPPORT REQUIREMENTS: Marines of any MOS can assist in recovery and closure of sanitation devices/pits

## MISCELLANEOUS:

#### ADMINISTRATIVE INSTRUCTIONS:

per Installation's SOP

Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for site closure
A map/diagram of closed site(s) should be forwarded to higher headquarters

<u>1171-XENG-1981</u>: Identify plumbing materials

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

 $\underline{\text{CONDITION}}$ : At a structure requiring plumbing work, with a plumbing plan, a Bill of Materials (BOM), and references.

**STANDARD:** So Bill of Materials (BOM) is inventoried and plumbing materials required for structure are matched to the plumbing plan.

#### PERFORMANCE STEPS:

- 1. Review Bill of Materials (BOM).
- 2. Review references.
- 3. Review plumbing plan.
- 4. Inventory items on Bill of Materials (BOM).
- 5. Record inventory results, identifying deficiencies/discrepancies.

**RELATED EVENTS:** 1171-ADMN-1007

## **REFERENCES:**

- 1. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 2. UPC (IAPMO/ANSI) Uniform Plumbing Code by International Association of Plumbing and Mechanical Officials/American National Standard Institute

# SUPPORT REQUIREMENTS:

MATERIAL: Bill of Materials (BOM)

**1171-XENG-1982:** Cut pipe

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

 $\underline{\text{CONDITION}}$ : At a structure requiring plumbing work, with a plumbing plan, a Bill of Materials (BOM), tools, and references.

**STANDARD:** So new pipe length will fit designated place in structure's plumbing system per the plumbing plan.

## PERFORMANCE STEPS:

- 1. Review Bill of Materials (BOM).
- 2. Review references.
- 3. Review plumbing plan.
- 4. Assess risks (ORM).
- 5. Don Personal Protective Equipment (PPE).
- 6. Select pipe from BOM.
- 7. Measure and mark pipe.
- 8. Secure pipe (in a vise or by other means).
- 9. Cut pipe to length.

# REFERENCES:

- 1. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 2. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 3. UPC (IAPMO/ANSI) Uniform Plumbing Code by International Association of Plumbing and Mechanical Officials/American National Standard Institute

# SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Plumbing tools

MATERIAL: Bill of Materials (BOM)

1171-XENG-1984: Connect pipe

NAVMC 3500.12B 22 Jan 2014

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** At a structure requiring plumbing work, with a plumbing plan, pipes that are cut to length, plumbing fittings, tools, and references.

**STANDARD:** So pipes are installed in structure's plumbing system at place designated by the plumbing plan and connection(s) will not leak.

## PERFORMANCE STEPS:

- 1. Identify FIRE HAZARD(S).
- 2. Identify VAPOR HAZARD(S).
- 3. Review references.
- 4. Review plumbing plan.
- 5. Assess risks (ORM).
- 6. Don Personal Protective Equipment (PPE).
- 7. Clean pipes and fitting(s) where they will be joined.
- 8. Join pipes and fitting(s) using designated procedures.
- 9. Test connection.

**PREREQUISITE EVENTS:** 1171-XENG-1982

# REFERENCES:

- 1. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 2. TB SIG 222 Solder and Soldering
- 3. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 4. UPC (IAPMO/ANSI) Uniform Plumbing Code by International Association of Plumbing and Mechanical Officials/American National Standard Institute

# SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE) Plumbing tools

MATERIAL: Bill of Materials (BOM)

1171-XENG-1985: Install plumbing fixtures in a permanent structure

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: At a structure requiring plumbing work, with a plumbing plan, a

Bill of Materials (BOM), tools, and references.

**STANDARD:** So fixtures are placed/connected as designated by the plumbing plan and connection(s) will not leak.

## PERFORMANCE STEPS:

- 1. Identify FIRE HAZARD(S).
- 2. Identify VAPOR HAZARD(S).
- 3. Review references.
- 4. Review plumbing plan.
- 5. Assess risks (ORM).
- 6. Don Personal Protective Equipment (PPE).
- 7. Prepare area of structure for plumbing fixture.
- 8. Connect fixture to supply pipe(s).
- 9. Connect fixture to drain pipe(s).
- 10. Test plumbing fixture and connection(s).

# PREREQUISITE EVENTS:

1171-XENG-1981 1171-XENG-1982 1171-XENG-1984

RELATED EVENTS: 1171-XENG-2983

## REFERENCES:

- 1. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 2. TB SIG 222 Solder and Soldering
- 3. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 4. UPC (IAPMO/ANSI) Uniform Plumbing Code by International Association of Plumbing and Mechanical Officials/American National Standard Institute

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE) Plumbing tools

MATERIAL: Bill of Materials (BOM)

 $\underline{\textbf{1171-XENG-1986}}$ : Repair plumbing system of a permanent structure

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** At a structure with a faulty interior plumbing system, a report detailing specific repairs to be made, a Bill of Materials (BOM), tools, and references.

 $\underline{\mathtt{STANDARD}} \colon$  So repairs detailed on the report are made per the Uniform Plumbing Code (UPC).

# PERFORMANCE STEPS:

- 1. Identify FIRE HAZARD(S).
- 2. Identify VAPOR HAZARD(S).
- 3. Review repairs to be made.
- 4. Review references.
- 5. Determine code requirements.
- 6. Identify risks (ORM).
- 7. Don Personal Protective Equipment (PPE).
- 8. Isolate repair area (Lockout/Tagout).
- 9. Remove broken/damaged materials.
- 10. Make repairs.
- 11. Test repairs.

**PREREQUISITE EVENTS:** 1171-XENG-1981

# RELATED EVENTS:

1171-XENG-1982 1171-XENG-1984 1171-XENG-1985

## **REFERENCES:**

- 1. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 2. TB SIG 222 Solder and Soldering
- 3. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 4. UPC (IAPMO/ANSI) Uniform Plumbing Code by International Association of Plumbing and Mechanical Officials/American National Standard Institute

# SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE) Plumbing tools

MATERIAL: Bill of Materials (BOM)

# 12004. 2000-LEVEL EVENTS

1171-ADMN-2021: Apply safety programs

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Section Head, Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With resources and references.

**STANDARD:** So applicable safety measures and procedures are in place and enforced.

# PERFORMANCE STEPS:

- 1. Review references.
- 2. Identify equipment safety requirements.

- 3. Identify personnel safety requirements.
- 4. Conduct Operational Risk Assessments.
- 5. Implement safety procedures.
- 6. Conduct safety awareness training.
- 7. Evaluate safety programs.
- 8. Enforce safety regulations.
- 9. Provide input for/submit required reports.

# PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1002

#### RELATED EVENTS:

1141-ADMN-2021 1142-ADMN-2021 1171-ADMN-2021

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO 3500.27\_ Operational Risk Management (ORM)
- 3. MCO 5100.19\_ Marine Corps Traffic Safety Program (Drivesafe)
- 4. MCO 5100.29\_ Marine Corps Safety Program
- 5. MCO 5100.30\_ Marine Corps Recreation and Off-Duty Safety (RODS) Program
- 6. MCO 5100.34\_ Deadline Safety of Use Message Instructions to Suspend Operations of Marine Corps Ground Equipment and Weapons Systems and Safety of Use Alerts
- 7. MCO 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Policy Order
- 8. MCO 5104.2\_ Marine Corps Radiofrequency Electromagnetic Field Personnel Protection Program
- 9. MCO 5104.3\_ Marine Corps Radiation Safety Program
- 10. MCO P5102.1\_ Navy and Marine Corps Mishap and Safety Investigation Reporting and Record Keeping Manual
- 11. NAVMC DIR 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Program Manual
- 12. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 13. UNIT SOP Unit's Standing Operating Procedures

1171-ADMN-2022: Apply environmental regulations

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Section Head, Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With references.

STANDARD: So environmental policies and procedures will be adhered to.

## PERFORMANCE STEPS:

- 1. Review references.
- 2. Verify section's compliance with applicable environmental regulations and restrictions.

- 3. Monitor platoon/section hazardous material disposal program.
- 4. Maintain hazardous materials storage areas.
- 5. Maintain Material Safety Data Sheets (MSDS).
- 6. Report any situations that require reporting.

**PREREQUISITE EVENTS:** 1171-ADMN-1004

## RELATED EVENTS:

1141-ADMN-2022 1142-ADMN-2022 1161-ADMN-2022

# **REFERENCES:**

- 1. INSTALLATION SOP Installation's Standing Operating Procedures
- 2. MCO 4450.12 Storage and Handling of Hazardous Materials
- 3. MCO P5090.2\_ Environmental Compliance and Protection Manual
- 4. MCRP 4-11B Environmental Considerations
- 5. OPNAVINST 5090.1\_ Environmental Readiness Program Manual

1171-ADMN-2023: Conduct MOS training

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

DESCRIPTION: MOS is Military Occupational Specialty.

BILLETS: Section Head, Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With training resources, records, and references.

STANDARD: So MOS proficiency is maintained.

# PERFORMANCE STEPS:

- 1. Review references.
- 2. Identify individual training requirements (review T&R Manual and MOS Roadmaps).
- 3. Identify unit training requirements (review unit METL/Commander's intent).
- 4. Determine on the job and sustainment training requirements by grade and MOS.
- 5. Develop lesson plans.
- 6. Develop training methods/aids/materials (as required).
- 7. Conduct training.
- 8. Document training.
- 9. Encourage use of self-directed study and assist in providing resources.

### RELATED EVENTS:

1141-ADMN-2023 1142-ADMN-2023 1161-ADMN-2023

# REFERENCES:

- 1. MCO 1553.3\_ Unit Training Management (UTM) Program
- 2. MCO 1553.4\_ Professional Military Education (PME)
- 3. MCO 3500.26\_ Universal Naval Task List (UNTL) Version 3.0

- 4. MCRP 3-0A Unit Training Management Guide
- 5. MCRP 3-0B How to Conduct Training
- 6. NAVMC 1553.1\_ Systems Approach to Training (SAT) Users Guide
- 7. NAVMC 3500.12\_ Marine Corps Engineer and Utilities Training and Readiness Manual
- 8. OPNAVINST 1560.10\_ Administration of the United Services Military Apprenticeship Program (USMAP)
- 9. UNIT SOP Unit's Standing Operating Procedures

1171-ADMN-2041: Initiate a PQDR

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** PQDR is Product Quality Deficiency Report (SF 368).

BILLETS: Section Head, Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With a defective item, blank forms, and references.

STANDARD: So deficiency can be identified.

## PERFORMANCE STEPS:

- 1. Review references.
- 2. Collect data.
- 3. Verify deficiency requires a PQDR.
- 4. Determine if deficiency is Category I or Category II.
- 5. Establish exhibit controls using DD Forms 1575 and 2332 (if required).
- 6. Complete PQDR.
- 7. Submit PQDR per Unit SOP.

# RELATED EVENTS:

1141-ADMN-2041 1142-ADMN-2041 1161-ADMN-2041

# REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCO 4855.10\_ Product Quality Deficiency Report (PQDR)
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures
- 4. UNIT SOP Unit's Standing Operating Procedures

# **SUPPORT REQUIREMENTS:**

## MATERIAL:

- DD Form 1575 (Suspended Tag Materiel)
- DD Form 2332 (Product Quality Deficiency Report Exhibit)
- SF 368 (Product Quality Deficiency Report [PQDR])

# MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Additional information for this event can be

found at http//www.logcom.usmc.mil/pqdr.

1171-ADMN-2051: Establish equipment preventive maintenance schedule

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Section Head, Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment records, forms, and references.

STANDARD: So operational readiness of equipment is maintained.

# PERFORMANCE STEPS:

1. Review references.

- 2. Determine equipment Preventive Maintenance Checks and Services (PMCS) requirements.
- 3. Audit equipment records.
- 4. Complete PMCS roster (NAVMC 10561).

# PREREQUISITE EVENTS:

1171-ADMN-1006 1171-ADMN-1011

# RELATED EVENTS:

1141-ADMN-2051 1142-ADMN-2051 1161-ADMN-2051

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO P4790.2\_ MIMMS Field Procedures Manual
- 3. MCWP 4-11.4 Maintenance Operations
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. UNIT SOP Unit's Standing Operating Procedures

# SUPPORT REQUIREMENTS:

### MATERIAL:

NAVMC 10561 (Preventive Maintenance Checks and Services (PMCS) Roster) Equipment records

1171-ADMN-2061: Maintain PEB

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** PEB is Pre-Expended Bin.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

# INITIAL TRAINING SETTING: MOJT

CONDITION: With commander's pre-expended bin authorization and references.

**STANDARD:** So common, low-cost, high usage parts are continuously available for immediate maintenance/repair of equipment.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Identify criteria for items placed in PEB.
- Validate authorized PEB listing, ensuring it is signed annually by commander.
- 4. Identify accountability requirements.
- 5. Requisition replacement parts, as required.
- 6. Roll back/dispose excess items.

### RELATED EVENTS:

1141-ADMN-2061 1142-ADMN-2061 1161-ADMN-2061

1171-ADMN-2062

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 3. MCO P4790.2\_ MIMMS Field Procedures Manual
- 4. UNIT SOP Unit's Standing Operating Procedures

# **SUPPORT REQUIREMENTS:**

MATERIAL: Storage bins

1171-ADMN-2062: Maintain equipment repair parts bins

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With forms and references.

**STANDARD:** So parts are kept in appropriate bin (layette) until maintenance/repair of specified equipment is accomplished.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Receive repair parts, placing repair parts in appropriate bin.
- 3. Update Service Request (SR).
- 4. Take corrective action if repair parts do not match requisitions.
- 5. Inventory bin every 2 weeks.
- 6. Issue repair parts when all are received, updating SR per unit's SOP.
- 7. Debrief task in GCSS-MC.

RELATED EVENTS:

1141-ADMN-2062 1142-ADMN-2062 1161-ADMN-2062

1171-ADMN-2061

# REFERENCES:

1. Appropriate Technical Manuals

- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. MCO P4790.2 MIMMS Field Procedures Manual
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures
- 6. UNIT SOP Unit's Standing Operating Procedures

### SUPPORT REQUIREMENTS:

### MATERIAL:

Storage bins

Forms

1171-ADMN-2071: Monitor maintenance management reports

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Section Head, Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: With access to Global Combat Support System-Marine Corps (GCSS-MC), maintenance management reports, supporting documentation, and references.

**STANDARD:** So accuracy of maintenance management reports is validated and unit's readiness and equipment serviceability are enhanced.

### PERFORMANCE STEPS:

- 1. Obtain current Maintenance Process Report (MPR).
- 2. Review references.
- 3. Review supporting documentation (equipment records).
- 4. Review MPR maintenance cycle times.
- 5. Validate daily maintenance reports.
- 6. Validate weekly maintenance reports.
- 7. Validate readiness reports.
- 8. Identify "exceptions."
- 9. Determine actions (if any) to correct "exceptions."
- 10. Make corrections (if any) to Service Requests (SR).
- 11. Debrief SRs.

# PREREQUISITE EVENTS:

1171-ADMN-1006 1171-ADMN-1007 1171-ADMN-1008 1171-ADMN-1009 1171-ADMN-1010 1171-ADMN-1011

# RELATED EVENTS:

| 1141-ADMN-2071 | 1142-ADMN-2071 | 1161-ADMN-2071 |
|----------------|----------------|----------------|
| 1171-ADMN-2061 | 1171-ADMN-2062 | 1171-ADMN-2072 |

### **REFERENCES:**

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 4. MCO 3000.11\_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
- 5. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
- 6. MCO P4790.2\_ MIMMS Field Procedures Manual
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures
- 8. UNIT SOP Unit's Standing Operating Procedures

# SUPPORT REQUIREMENTS:

MATERIAL: Maintenance Process Reports (MPR)

1171-ADMN-2072: Monitor maintenance related programs

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Section Head, Water Support Technician

**GRADES:** CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With equipment, equipment records, and references.

STANDARD: So unit's readiness and equipment serviceability are enhanced.

# PERFORMANCE STEPS:

- 1. Review references.
- 2. Determine unit's maintenance program requirements.
- 3. Inspect equipment.
- 4. Monitor Modification Control program.
- 5. Monitor Calibration Control program.
- 6. Monitor New Equipment Warranty program.
- 7. Monitor Quality Deficiency (QDR) program.
- 8. Monitor Recoverable Items (WIR) program.
- 9. Monitor Quality Control (QC) program.
- 10. Monitor Corrosion Prevention and Control (CPAC) program.
- 11. Ensure program and equipment records are maintained.

### RELATED EVENTS:

| 1141-ADMN-2072 | 1142-ADMN-2072 | 1161-ADMN-2072 |
|----------------|----------------|----------------|
| 1169-ADMN-2072 | 1171-ADMN-2041 | 1171-ADMN-2051 |
| 1171-ADMN-2071 | 1171-ADMN-2073 |                |

# REFERENCES:

1. Appropriate Technical Manuals

- 2. MCO 4400.194\_ Marine Corps Class VII Stock Rotation Policy
- 3. MCO 4733.1\_ Marine Corps Test, Measurement, and Diagnostics Equipment (TMDE) Calibration and Maintenance Program (CAMP)
- 4. MCO 4790.18\_ Corrosion Prevention and Control (CPAC) Program
- 5. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 6. MCO P4400.82 Regulated/Controlled Item Management Manual
- 7. MCO P4790.2\_ MIMMS Field Procedures Manual
- 8. TI 4733-OD/1\_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
- 9. TM 4700-15/1\_ Ground Equipment Record Procedures
- 10. TM 750-245-4 Direct Support, General Support Quality Control Inspector's Inspection Criteria
- 11. Unit SOP Unit's Standing Operating Procedures

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Some programs listed above may not be required at all units.

1171-ADMN-2073: Inspect maintenance actions (quality control)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Quality Control NCO, Water Support Technician

**GRADES:** CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With repaired equipment, equipment records and references.

STANDARD: So equipment repairs and documentation is certified complete.

# PERFORMANCE STEPS:

- 1. Review references.
- 2. Review Service Request (SR).
- 3. Verify equipment's operational condition.
- 4. Reject faulty equipment.
- 5. Verify equipment closeout.
- 6. Verify completion of maintenance actions.

#### PREREQUISITE EVENTS:

1171-ADMN-1006 1171-ADMN-1008

#### RELATED EVENTS:

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. MCO P4790.2\_ MIMMS Field Procedures Manual

- 5. TM 4700-15/1\_ Ground Equipment Record Procedures
- 6. TM 750-245-4 Direct Support, General Support Quality Control Inspector's Inspection Criteria

**EQUIPMENT:** Repaired equipment

MATERIAL: NAVMC 696D (Motor Vehicle and Engineer Equipment Record Folder)

OTHER SUPPORT REQUIREMENTS: Access to Global Combat Support System-Marine

Corps (GCSS-MC)

1171-MANT-2101: Operate a multimeter

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With equipment having an electrical circuit(s).

STANDARD: So electrical outputs of the circuit are measured.

# PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Determine correct setting (AC, DC, resistance or current).
- 3. Test circuit (voltage, resistance, current).
- 4. Record measurements/readings.
- 5. Analyze measurements/readings.

# PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1002 1171-ADMN-1006

# RELATED EVENTS:

1141-MANT-1101 1142-MANT-1101 1161-MANT-1101

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. IM 8024B Manufacturer's Instruction Manual for Fluke Model 8024B Digital Multimeter
- 3. SL-3-09869A Components List for Multimeter, Model 77-4BN
- 4. TC 9-60 Communications-Electronics Fundamentals, Basic Principles of Alternating Current and Direct Current
- 5. TC 9-62 Communications-Electronics Fundamentals, Solid State Devices and Solid State Power Supplies and Amplifiers
- 6. TM 2000-15/4 Power System Reference Manual

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Multimeter [H7030]

Anti-Static Wrist Strap (if required) Equipment with an electrical circuit

1171-MANT-2191: Comply with a Modification Instruction (MI)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 24 months

**BILLETS:** Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With a Service Request (SR) on effected equipment, the effected equipment, a Modification Instruction (MI), parts, tools, forms, and references.

STANDARD: Per the MI and TM 4700-15/1H.

# PERFORMANCE STEPS:

- 1. Review MI.
- 2. Review Service Request (SR).
- 3. Inventory parts from layette.
- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE) (if required).
- 6. Apply modification.
- 7. Test modification.
- 8. Document modification.

PREREQUISITE EVENTS: 1171-ADMN-1006

# RELATED EVENTS:

1141-MANT-2191 1142-MANT-2191 1161-MANT-2191 1171-ADMN-1008 1171-ADMN-1010 1171-ADMN-1011

# **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Water support or hygiene equipment being modified

# MATERIAL:

Modification Instruction (MI)

Parts (if required)

NAVMC 10524 (Consolidated Engineer Equipment Operation Log and Service Record)

NAVMC 696D (Motor Vehicle and Engineer Equipment Record Folder)

1171-MANT-2338: Diagnose an M26 JSTDS-SS water pump malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: JSTDS-SS is Joint Service Transportable Decontamination System-Small Scale.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, tools, forms, and references.

**STANDARD:** So equipment faults are identified and corrective actions initiated.

### PERFORMANCE STEPS:

- 1. Identify ELECTRIC SHOCK HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review LTI.
- 5. Review equipment technical manuals.
- 6. Don Personal Protective Equipment (PPE).
- 7. Ensure any stored/hazardous energy is dissipated/controlled.
- 8. Check valves/switches/gauges/meters for correct settings.
- 9. Isolate faulty component(s)/identify leaks.
- 10. Determine if component fault(s) was caused by a defect elsewhere.
- 11. Document findings (complete LTI/update Service Request).
- 12. Order parts (if required).

### PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1002 1171-ADMN-1006

### RELATED EVENTS:

1142-MANT-2338 1171-ADMN-1008 1171-ADMN-1010 1171-ADMN-1011

- 1. FP 12112A Fielding Plan for the Joint Service Transportable Decontamination System, Small Scale
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 5. TM 12112A-OR Operator Manual for Decontaminating Apparatus: Joint Service Transportable Small Scale, M26
- 6. TM 3-4230-238-23&P Field Maintenance Manual Including Repair Parts and Special Tools List for Decontaminating Apparatus: Joint Service Transportable Small Scale, M26

7. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE) General Mechanics Tool Kit (GMTK) [C7915] Faulty M26 JSTDS-SS or components

#### MATERIAL

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

<u>UNITS/PERSONNEL</u>: MOS 5711 (Nuclear, Biological, and Chemical Defense Marine) to facilitate troubleshooting process

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, a 120/208VAC 60Hz electrical power source, tools, forms, and references.

**STANDARD:** So equipment electrical faults are identified and corrective actions initiated.

### PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- Identify GRAYWATER HAZARD(S).
- 3. Review LTI.
- 4. Review equipment technical manuals/wiring diagrams/schematics.
- 5. Don Personal Protective Equipment (PPE).
- 6. Ensure equipment is grounded.
- 7. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 8. Check valves/switches/gauges for correct settings.
- 9. Isolate faulty circuit(s).
- 10. Trace current/voltage paths in circuits.
- 11. Isolate faulty component(s).
- 12. Determine if component fault was caused by a defect elsewhere (repeating steps 8, 9, 10, and/or 11 as required).
- 13. Determine echelon(s) of maintenance.
- 14. Document findings (complete LTI/update Service Request (SR).
- 15. Order parts (if required).

PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1002 1171-ADMN-1006

1171-MANT-2101

RELATED EVENTS:

| 1142-MANT-1331 | 1142-MANT-2332 | 1171-ADMN-1008 |
|----------------|----------------|----------------|
| 1171-ADMN-1010 | 1171-ADMN-1011 | 1171-MANT-1231 |

1171-MANT-1331

#### REFERENCES:

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 4. TC 9-60 Communications-Electronics Fundamentals, Basic Principles of Alternating Current and Direct Current
- TM 10006A-14&P/14 Erection, Operation, Storage, Inspection and Maintenance Instructions with Illustrated Parts Breakdown for Shower Facility, Bare Base
- 6. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 7. TM 10-4520-259-13&P Operator's, Unit and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Heater, Water, Liquid Fuel, Models M-80 and M-85
- 8. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Multimeter [H7030]

General Mechanics Tool Kit (GMTK) [C7915]

Faulty Shower Facility, Bare Base [B0055] or components

<u>MATERIAL</u>: NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

OTHER SUPPORT REQUIREMENTS: 120/208VAC 60Hz electrical power source (normally a 10kW Tactical Generator)

### **MISCELLANEOUS:**

ADMINISTRATIVE INSTRUCTIONS: Assistance from an Engineer Equipment Electrical Systems Technician (MOS 1142) may be required to fully diagnose any electrical system related malfunction.

1171-MANT-2396: Diagnose a water pump fuel system malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

GRADES: CPL, SGT, SSGT

# INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, tools, forms, and references.

**STANDARD:** So equipment fuel system faults are identified and corrective actions initiated.

### PERFORMANCE STEPS:

- 1. Identify FIRE/EXPLOSION HAZARD(S).
- 2. Identify CARBON MONOXIDE HAZARD(S).
- 3. Review LTI.
- 4. Review equipment technical manuals.
- 5. Don Personal Protective Equipment (PPE).
- 6. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 7. Check valves/switches/gauges for correct settings.
- 8. Isolate faulty component(s).
- 9. Determine if component fault was caused by a defect elsewhere.
- 10. Determine echelon(s) of maintenance.
- 11. Document findings (complete LTI/update Service Request).
- 12. Order parts (if required).

### PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1002 1171-ADMN-1006

### RELATED EVENTS:

1171-ADMN-1008 1171-ADMN-1010 1171-ADMN-1011

### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE) General Mechanics Tool Kit (GMTK) [C7915] Water pump with a faulty fuel system

### MATERIAL:

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI]) Fuel

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Assistance from an Engineer Equipment Mechanic (MOS 1341) or a Fuel and Electrical Systems Mechanic (MOS 3524) may be required to fully diagnose any fuel system related malfunction.

1171-MANT-2397: Isolate a TWPS electrical malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

### **DESCRIPTION:**

TWPS is 1,500 GPH Tactical Water Purification System. GPH is Gallons per Hour.

BILLETS: Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With a Limited Technical Inspection (LTI) on inoperable equipment, the inoperable equipment, a 416VAC 3-phase 60Hz electrical power source, tools, forms, and references.

<u>STANDARD</u>: So equipment electrical faults are identified and corrective actions initiated.

# PERFORMANCE STEPS:

- 1. Identify ELECTROCUTION HAZARD(S).
- 2. Identify CHEMICAL HAZARD(S).
- 3. Identify FIRE/EXPLOSION HAZARD(S).
- 4. Identify CARBON MONOXIDE HAZARD(S).
- 5. Identify GRAYWATER HAZARD(S).
- 6. Review LTI.
- 7. Review equipment technical manuals/wiring diagrams/schematics.
- 8. Don Personal Protective Equipment (PPE).
- 9. Ensure equipment is grounded (or bonded to power source).
- 10. Ensure any stored/hazardous energy is dissipated/controlled
   (Lockout/Tagout).
- 11. Check valves/switches/gauges for correct settings.
- 12. Isolate faulty circuit(s).
- 13. Trace current/voltage paths in circuits.
- 14. Isolate faulty component(s).
- 15. Determine if component fault was caused by a defect elsewhere (repeating steps 11, 12, 13, and/or 14 as required).
- 16. Determine echelon(s) of maintenance.
- 17. Document findings (complete LTI/update Service Request).
- 18. Order parts (if required).

### PREREQUISITE EVENTS:

| 1171-ADMN-1001 | 1171-ADMN-1002 | 1171-ADMN-1006 |
|----------------|----------------|----------------|
| 1171-MANT-2101 |                |                |

# RELATED EVENTS:

| 1142-MANT-1382 | 1171-ADMN-1008 | 1171-ADMN-1010 |
|----------------|----------------|----------------|
| 1171-ADMN-1011 | 1171-MANT-1282 | 1171-MANT-1382 |

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide

- 3. SI 10802A-IN/1 Warranty Procedures for the Marine Corps Tactical Water Purification System (TWPS)
- 4. SI 10802A-OR/3 Supply Instructions for the TWPS Recirculation Kit
- 5. TB 385-4 Safety Requirements for Maintenance of Electrical and Electronic Equipment
- 6. TC 9-60 Communications-Electronics Fundamentals, Basic Principles of Alternating Current and Direct Current
- 7. TC 9-62 Communications-Electronics Fundamentals, Solid State Devices and Solid State Power Supplies and Amplifiers
- 8. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 9. TM 10802A-OI/1A Vol 1 Operator Manual for Tactical Water Purification System (TWPS)
- 10. TM 10802A-OI/1A Vol 2 Field Maintenance Manual for Tactical Water Purification System (TWPS)
- 11. TM 10802A-OI/2A Field Maintenance Repair Parts and Special Tools List for Tactical Water Purification System (TWPS)
- 12. TM 4700-15/1\_ Ground Equipment Record Procedures

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

Multimeter [H7030]

General Mechanics Tool Kit (GMTK) [C7915]

Faulty 1,500 GPH Tactical Water Purification System (TWPS) [B2605] or components

MATERIAL: NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI])

<u>UNITS/PERSONNEL</u>: Three licensed Water Support Technicians (MOS 1171) are required to set up and operate the TWPS. An Electrician (MOS 1141) is required to hook up and operate the generator.

OTHER SUPPORT REQUIREMENTS: 416VAC 3-phase 60Hz electrical power source (normally a 60kW Tactical Generator)

# MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Assistance from an Engineer Equipment Electrical Systems Technician (MOS 1142) may be required to fully diagnose any electrical system related malfunction.

1171-MANT-2438: Repair an M26 JSTDS-SS water pump

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: JSTDS-SS is Joint Service Transportable Decontamination System-Small Scale.

BILLETS: Water Support Technician

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

# INITIAL TRAINING SETTING: MOJT

**CONDITION:** With a Service Request (SR) on degraded/deadlined equipment, the degraded/deadlined equipment, repair parts from layette, tools, forms, and references.

**STANDARD:** So equipment functions/operates as specified in TM 12112A-OR and repairs are documented per TM 4700-15/1H.

#### PERFORMANCE STEPS:

- 1. Identify ELECTRIC SHOCK HAZARD(S).
- 2. Identify FIRE/EXPLOSION HAZARD(S).
- 3. Identify CARBON MONOXIDE HAZARD(S).
- 4. Review Service Request (SR).
- 5. Inventory parts from layette.
- 6. Review equipment technical manuals.
- 7. Don Personal Protective Equipment (PPE).
- 8. Ensure equipment is grounded.
- 9. Ensure stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 10. Remove faulty part(s).
- 11. Prepare area(s) for new part(s).
- 12. Attach new part(s), making necessary adjustments.
- 13. Test repairs.
- 14. Document repairs.

# PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1002 1171-ADMN-1006 1171-ADMN-1008 1171-ADMN-1011 1171-MANT-2338

**RELATED EVENTS:** 1142-MANT-2438

# REFERENCES:

- 1. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 2. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 3. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 4. TM 12112A-OR Operator Manual for Decontaminating Apparatus: Joint Service Transportable Small Scale, M26
- 5. TM 3-4230-238-23&P Field Maintenance Manual Including Repair Parts and Special Tools List for Decontaminating Apparatus: Joint Service Transportable Small Scale, M26
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Degraded/deadlined M26 JSTDS-SS

# MATERIAL:

Repair parts

NAVMC 10560 (Worksheet for Preventive Maintenance and Technical Inspection for Engineer Equipment [LTI]) Fuel

<u>UNITS/PERSONNEL</u>: MOS 5711 (Nuclear, Biological, and Chemical Defense Marine) may be required to facilitate the repair process

1171-XENG-2501: Conduct a water reconnaissance

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: With a warning order, personnel, transportation, area map, equipment, materials, forms, and references.

**STANDARD:** So water sources that will support designated equipment and personnel can be selected and developed.

# PERFORMANCE STEPS:

- 1. Review warning order and references.
- 2. Select possible water source(s) from map.
- 3. Plan movement to possible water source(s).
- 4. Move to a possible water source.
- 5. Complete Identification Data on DA Form 1712-2 and Water Smartcard.
- 6. Test water, recording information on DA Form 1712-2.
- 7. Complete Water Quantity and Quality Data on DA Form 1712-2.
- 8. Record site conditions on DA Form 1712-2 and Water Smartcard.
- 9. Sketch proposed site layout on DA Form 1712-2.
- 10. Photograph site.
- 11. Verify completeness of reports and smartcards.
- 12. Move to next possible source (repeating steps 4 through 12 as required).
- 13. Return from reconnaissance.

# **PREREQUISITE EVENTS:** 1171-XENG-1702

# RELATED EVENTS:

| 1171-ADMN-2022 | 1171-XENG-2502 | 1171-XENG-2553 |
|----------------|----------------|----------------|
| 1171-XENG-2555 | 1171-XENG-2558 | 1171-XENG-2651 |
| 1171-XENG-2754 |                |                |

- 1. ATTP 5-0.1 Commander and Staff Officer Guide
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCRP 4-11B Environmental Considerations
- 7. MCRP 5-12A Operational Terms and Graphics
- 8. MCWP 3-17.4 Engineer Reconnaissance
- 9. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 10. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 11. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary

- Control and Surveillance of Field Water Supplies
- 12. NAVMED P-5010-5 Manual of Naval Preventive Medicine, Chapter 5, Water Supply Ashore
- 13. TM 10-6630-222-12&P Operator and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Water Quality Analysis Set: Purification (WOAS-P)
- 14. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 15. TM 5-813-1 Water Supply, Sources and General Considerations
- 16. TM 5-813-3 Water Supply, Water Treatment
- 17. TM 5-813-4 Water Supply, Water Storage
- 18. TM 5-813-5 Water Supply, Water Distribution
- 19. TM 5-813-7 Water Supply for Special Projects
- 20. TM 5-813-8 Water Desalination
- 21. TM 5-813-9 Water Supply, Pumping Stations
- 22. TM 5-820-4 Drainage for Areas Other Than Airfields

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Water Quality Analysis Set, Purification (WQAS-P) [B2630]
Compass [K4222]
Camera
Calculator
Tape measure

### MATERIAL:

Area topographical map(s)
DA Form 1712-R (Water Reconnaissance Report)
Water Smartcard (Figure C-3 of MCWP 3-17.4)
Pens/pencils

### UNITS/PERSONNEL:

Security may be required

MOS 5711 (Nuclear Biological and Chemical Defense (NBCD) Specialist) to test water for NBC contamination.

OTHER SUPPORT REQUIREMENTS: Transportation (by vehicle or aircraft) will be required for access to prospective water source(s).

# MISCELLANEOUS:

### ADMINISTRATIVE INSTRUCTIONS:

 ${\tt MOS}$  5711 (Nuclear Biological and Chemical Defense (NBCD) Specialist) will test water for NBC contamination.

Graduates of the Basic Water Support Technician Course (CID: M031102) are licensed operators of the Water Quality Analysis Set, Purification (WQAS-P) [B2630]

**SPECIAL PERSONNEL CERTS:** Operators of the Water Quality Analysis Set, Purification (WQAS-P) [B2630] must be licensed.

1171-XENG-2502: Analyze water reconnaissance report(s)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Section Head, Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With warning order, data from water reconnaissance, calculator, materials, and references.

**STANDARD:** So water sources are selected/prioritized to support water requirements identified in the warning order.

# PERFORMANCE STEPS:

- 1. Review warning order, reconnaissance report(s) and references.
- 2. Determine amount of water required to support the operation.
- 3. Verify volume of water available from water source(s).
- 4. Identify quality of water available from water source(s).
- 5. Identify operational risks associated with each water source.
- 6. Identify environmental risks associated with each water source.
- 7. Determine requirements to develop water source(s).
- 8. Determine camouflage, concealment, and decoy requirements.
- 9. Determine security requirements/vulnerabilities.
- 10. Determine transportation routes/road networks.
- 11. Select/prioritize water source(s) to support operational requirements.

# PREREQUISITE EVENTS:

1171-XENG-1702 1171-XENG-2501

### RELATED EVENTS:

1171-XENG-1604 1171-XENG-2553 1171-XENG-2651 1171-XENG-2752

- 1. ATTP 5-0.1 Commander and Staff Officer Guide
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 5. MCO 3500.27\_ Operational Risk Management (ORM)
- 6. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 7. MCRP 3-17.7N Base Camps
- 8. MCRP 3-17B Engineer Forms and Reports
- 9. MCRP 4-11B Environmental Considerations
- 10. MCRP 5-12A Operational Terms and Graphics
- 11. MCWP 3-17 Engineering Operations
- 12. MCWP 3-17.4 Engineer Reconnaissance
- 13. MCWP 3-17.7 General Engineering
- 14. MCWP 3-41.1 Rear Area Operations
- 15. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 16. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 17. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary

- Control and Surveillance of Field Water Supplies
- 18. NAVMED P-5010-5 Manual of Naval Preventive Medicine, Chapter 5, Water Supply Ashore
- 19. TM 10-6630-222-12&P Operator and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Water Quality Analysis Set: Purification (WOAS-P)
- 20. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 21. TM 5-813-1 Water Supply, Sources and General Considerations
- 22. TM 5-813-3 Water Supply, Water Treatment
- 23. TM 5-813-4 Water Supply, Water Storage
- 24. TM 5-813-5 Water Supply, Water Distribution
- 25. TM 5-813-7 Water Supply for Special Projects
- 26. TM 5-813-8 Water Desalination
- 27. TM 5-813-9 Water Supply, Pumping Stations
- 28. TM 5-820-4 Drainage for Areas Other Than Airfields

**EQUIPMENT:** Calculator

# MATERIAL:

Area topographical map(s)
Completed DA Form 1712-Rs (Water Reconnaissance Reports)
Completed Water Smartcards (if any)

1171-XENG-2553: Develop a water support plan

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Section Head, Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a warning order requiring a base camp(s), area map(s), area reconnaissance report(s), water reconnaissance report(s), any environmental impact report(s), camp layout(s), and references.

**STANDARD:** So requirements of warning order are supported; with water sites and distribution points drawn on camp layout(s) and a Course of Action (COA) established; and input provided for Appendix 2 to Annex D of the Operation Order.

### PERFORMANCE STEPS:

- Review warning order, map(s), reconnaissance report(s), camp layout(s), and references.
- 2. Identify equipment/personnel requiring water support.
- 3. Determine water purification/storage/distribution equipment requirements, selecting equipment sites.
- 4. Determine environmental impacts.
- 5. Plot equipment sites on camp layout(s).

- 6. Select water point location(s) making provision for traffic and drainage.
- 7. Plot water point(s) on camp layout(s).
- 8. Plot distribution methods on camp layout(s).
- 9. Identify potential impact of weather/climate on water purification, storage, and distribution operations.
- 10. Determine risks, conducting operational risk assessments.
- 11. Identify "Off Limit" areas (i.e., generator sites, hazardous material sites, etc.).
- 12. Determine number and type of warning signs required.
- 13. Schedule Preventive Maintenance Checks and Services (PMCS).
- 14. Determine POL requirements.
- 15. Determine chemical requirements for purification/storage operations.
- 16. Determine camouflage, concealment, and decoy requirements.
- 17. Determine security requirements.
- 18. Estimate man-hour requirements, determining number of water support personnel required to support the mission.
- 19. Establish operator schedules.
- 20. Estimate logistical support (truck, forklift, etc.) required.
- 21. Establish Bill of Materials (BOM) including security, camouflage, environmental, and safety items.
- 22. Generate work request(s) for any required construction.
- 23. Establish a Course of Action (COA).
- 24. Record requirements for input into Appendix 2 to Annex D of the Operation Order.
- 25. Brief water support plan (if required).

# PREREQUISITE EVENTS: 1171-XENG-2501 1171-XENG-2502

1171-XENG-1702

| RELATED EVENTS: |                |                |
|-----------------|----------------|----------------|
| 1171-XENG-1604  | 1171-XENG-1648 | 1171-XENG-2555 |
| 1171-XENG-2558  | 1171-XENG-2651 | 1171-XENG-2653 |
| 1171-XENG-2753  | 1171-XENG-2754 | 1171-XENG-2853 |

- 1. Appropriate Technical Manuals
- 2. ATTP 5-0.1 Commander and Staff Officer Guide
- 3. FM 10-52 Water Supply in Theaters of Operation
- 4. FM 10-52-1 Water Supply Point Equipment and Operations
- 5. FM 3-55 Information Collection
- 6. FMFM 7-29 Mountain Operations
- 7. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 8. MCO 3000.18\_ Marine Corps Force Deployment Planning and Execution (FDP&E) Manual
- 9. MCO 3500.27\_ Operational Risk Management (ORM)
- 10. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 11. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 12. MCRP 3-17.7F Project Management
- 13. MCRP 3-17.7N Base Camps
- 14. MCRP 3-17B Engineer Forms and Reports
- 15. MCRP 3-35.1D Cold Region Operations
- 16. MCRP 4-11B Environmental Considerations
- 17. MCRP 5-12A Operational Terms and Graphics
- 18. MCWP 3-17 Engineering Operations

- 19. MCWP 3-17.4 Engineer Reconnaissance
- 20. MCWP 3-17.7 General Engineering
- 21. MCWP 3-35.5 Jungle Operations
- 22. MCWP 3-35.6 Desert Operations
- 23. MCWP 3-41.1 Rear Area Operations
- 24. MCWP 4-1 Logistics Operations
- 25. MCWP 4-11 Tactical-Level Logistics
- 26. MCWP 4-11.5 Seabee Operations in the MAGTF
- 27. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 28. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 29. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 30. NAVMED P-5010-5 Manual of Naval Preventive Medicine, Chapter 5, Water Supply Ashore
- 31. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 32. TM 5-813-1 Water Supply, Sources and General Considerations
- 33. TM 5-813-3 Water Supply, Water Treatment
- 34. TM 5-813-4 Water Supply, Water Storage
- 35. TM 5-813-5 Water Supply, Water Distribution
- 36. TM 5-813-7 Water Supply for Special Projects
- 37. TM 5-813-8 Water Desalination
- 38. TM 5-813-9 Water Supply, Pumping Stations
- 39. TM 5-820-4 Drainage for Areas Other Than Airfields
- 40. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# MATERIAL:

Area topographical map(s)

DA Form 1712-Rs (Water Reconnaissance Reports)

Water Smartcards (Figure C-3 of MCWP 3-17.4)

Area reconnaissance report(s)

Environmental impact report(s) (if any)

Camp layout(s)

1171-XENG-2555: Develop a hygiene equipment support plan

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Section Head, Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a warning order requiring a base camp(s), map(s), reconnaissance report(s), camp layout(s) with water source and distribution points indicated, any environmental impact report(s), known soil type(s), and references.

STANDARD: So requirements of warning order are supported; with hygiene

equipment site(s) drawn on the camp layout(s) and a Course of Action (COA) established; and input provided for Annex D and Appendix 6 to Annex Q of the Operation Order.

# PERFORMANCE STEPS:

- Review warning order, map(s), reconnaissance report(s), camp layout(s), and references.
- 2. Identify personnel requiring hygiene support.
- 3. Determine hygiene equipment requirements, selecting equipment sites and making provisions for traffic and drainage.
- 4. Determine environmental impacts.
- 5. Plot equipment sites on camp layout(s).
- 6. Identify potential impact of weather/climate on hygiene equipment operations.
- 7. Determine risks, conducting operational risk assessments.
- 8. Identify "Off Limit" areas (i.e., generator sites, hazardous material sites, etc.).
- 9. Determine number and type of warning sign(s) required.
- 10. Schedule Preventive Maintenance Checks and Services (PMCS).
- 11. Determine POL requirements.
- 12. Determine chemical requirements for hygiene operations.
- 13. Determine camouflage, concealment, and decoy requirements.
- 14. Determine security requirements.
- 15. Determine laundry/shower schedules for supported units.
- 16. Estimate man-hour requirements, determining number of water support personnel required to support hygiene mission.
- 17. Establish operator schedules.
- 18. Estimate logistical support (truck, forklift, etc.) required.
- 19. Establish a Bill of Materials (BOM) including security, camouflage, environmental, and safety items.
- 20. Generate work request(s) for any required construction.
- 21. Establish a Course of Action (COA).
- 22. Record requirements for input into Annex D and Appendix 6 to Annex Q of the Operation Order.
- 23. Brief hygiene equipment support plan (if required).

# PREREQUISITE EVENTS: 1171-XENG-2553

# RELATED EVENTS:

| 1169-XENG-2555 | 1171-XENG-1631 | 1171-XENG-1632 |
|----------------|----------------|----------------|
| 1171-XENG-2558 | 1171-XENG-2655 | 1171-XENG-2755 |
| 1171-XENG-2855 |                |                |

- 1. Appropriate Technical Manuals
- 2. ATTP 5-0.1 Commander and Staff Officer Guide
- 3. FM 3-55 Information Collection
- 4. FMFM 7-29 Mountain Operations
- 5. MCO 3000.18\_ Marine Corps Force Deployment Planning and Execution (FDP&E) Manual
- 6. MCO 3500.27\_ Operational Risk Management (ORM)
- 7. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 8. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 9. MCRP 3-17.7F Project Management

- 10. MCRP 3-17.7N Base Camps
- 11. MCRP 3-17B Engineer Forms and Reports
- 12. MCRP 3-35.1D Cold Region Operations
- 13. MCRP 4-11.1D Field Hygiene and Sanitation
- 14. MCRP 4-11B Environmental Considerations
- 15. MCRP 5-12A Operational Terms and Graphics
- 16. MCWP 3-17 Engineering Operations
- 17. MCWP 3-17.4 Engineer Reconnaissance
- 18. MCWP 3-17.7 General Engineering
- 19. MCWP 3-35.5 Jungle Operations
- 20. MCWP 3-35.6 Desert Operations
- 21. MCWP 3-41.1 Rear Area Operations
- 22. MCWP 4-1 Logistics Operations
- 23. MCWP 4-11 Tactical-Level Logistics
- 24. MCWP 4-11.5 Seabee Operations in the MAGTF
- 25. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 26. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 27. SL-3-10006A Components List for Bath Shower Unit, Expedition
- 28. TB MED 593 Guidelines for Field Waste Management
- 29. TM 01034E-12&P/1 Operator's and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Tank, Fabric, Collapsible, Water Storage, 3,000 Gallons
- 30. TM 10006A-14&P/14 Erection, Operation, Storage, Inspection and Maintenance Instructions with Illustrated Parts Breakdown for Shower Facility, Bare Base
- 31. TM 10-4520-259-13&P Operator's, Unit and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Heater, Water, Liquid Fuel, Models M-80 and M-85
- 32. TM 10-4630-206-12&P Operator and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Sewage Ejection Pump (SEP)
- 33. TM 10-8340-240-12&P Operator's and Unit Maintenance Manual, Including Repair Parts and Special Tools List for Modular General Purpose Tent System (MGPTS)
- 34. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 35. TM 11413A-OI/1 Operator/Maintenance Manual Instructions with Repair Parts and Special Tools List (RPSTL) for Containerized Batch Laundry
- 36. TM 55-8115-204-23&P Unit and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for General Cargo Container
- 37. TM 5-820-4 Drainage for Areas Other Than Airfields
- 38. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

### MATERIAL:

Area topographical map(s)

Reconnaissance report(s)

Environmental impact report(s) (if any)

Camp layout(s) with water source and distribution points indicated

1171-XENG-2558: Develop a field sanitation plan

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Section Head, Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With a warning order requiring a base camp(s), map(s), reconnaissance report(s), camp layout(s), any environmental impact report(s), known soil type(s), and references.

**STANDARD:** So requirements of warning order are supported; with sanitation devices/sites drawn on the camp layout(s) and a Course of Action (COA) established; and input provided for Annex D and Appendix 6 to Annex Q of the Operation Order.

# PERFORMANCE STEPS:

- Review warning order, map(s), reconnaissance report(s), camp layout(s), and references.
- 2. Identify locations of equipment, devices and facilities to be supported/impacted by sanitation requirements.
- 3. Determine soil absorption rates.
- 4. Identify potential impact of weather/climate on sanitation devices.
- 5. Determine amount of waste water that will be generated.
- 6. Determine numbers of sanitation devices/facilities (grease traps, head/latrines, garbage pits, and soakage pits) required.
- 7. Determine environmental impacts.
- 8. Plot sanitation devices/facilities on camp layout(s), making provisions for traffic.
- 9. Determine risks, conducting operational risk assessments.
- 10. Determine number and type of warning signs required.
- 11. Determine camouflage, concealment, and decoy requirements.
- 12. Estimate man-hour requirements, determining number of water support personnel required to support sanitation mission.
- 13. Determine cleaning/inspection/maintenance schedule.
- 14. Estimate logistical support (truck, forklift, etc.) required.
- 15. Establish a Bill of Materials (BOM) including camouflage, environmental, and safety items.
- 16. Generate work request(s) for any required construction.
- 17. Establish a Course of Action (COA).
- 18. Record requirements for input into Annex D and Appendix 6 to Annex Q of the Operation Order.
- 19. Brief sanitation plan (if required).

**PREREQUISITE EVENTS:** 1171-XENG-2555

# RELATED EVENTS:

| 1169-XENG-2558 | 1171-XENG-1605 | 1171-XENG-1631 |
|----------------|----------------|----------------|
| 1171-XENG-1632 | 1171-XENG-1805 | 1171-XENG-2658 |
| 1171-XENG-2858 |                |                |

# REFERENCES:

1. Appropriate Technical Manuals

- 2. ATTP 5-0.1 Commander and Staff Officer Guide
- 3. FM 3-55 Information Collection
- 4. FMFM 7-29 Mountain Operations
- 5. INSTALLATION SOP Installation's Standing Operating Procedures
- 6. MCO 3000.18\_ Marine Corps Force Deployment Planning and Execution (FDP&E) Manual
- 7. MCO 3500.27\_ Operational Risk Management (ORM)
- 8. MCO 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Policy Order
- 9. MCO P5090.2 Environmental Compliance and Protection Manual
- 10. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 11. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 12. MCRP 3-17.7F Project Management
- 13. MCRP 3-17.7N Base Camps
- 14. MCRP 3-17B Engineer Forms and Reports
- 15. MCRP 3-35.1D Cold Region Operations
- 16. MCRP 4-11.1D Field Hygiene and Sanitation
- 17. MCRP 4-11.8A Marine Corps Field Feeding Program
- 18. MCRP 4-11B Environmental Considerations
- 19. MCRP 5-12A Operational Terms and Graphics
- 20. MCWP 3-17 Engineering Operations
- 21. MCWP 3-17.4 Engineer Reconnaissance
- 22. MCWP 3-17.7 General Engineering
- 23. MCWP 3-35.5 Jungle Operations
- 24. MCWP 3-35.6 Desert Operations
- 25. MCWP 3-41.1 Rear Area Operations
- 26. MCWP 4-11.5 Seabee Operations in the MAGTF
- 27. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 28. TB MED 593 Guidelines for Field Waste Management
- 29. TM 10-4630-206-12&P Operator and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Sewage Ejection Pump (SEP)
- 30. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 31. TM 5-820-4 Drainage for Areas Other Than Airfields

### MATERIAL:

Area topographical map(s)

Reconnaissance report(s)

Environmental impact report(s) (if any)

Camp layout(s) with equipment, devices and facilities indicated

1171-XENG-2581: Design an interior plumbing system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Section Head, Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With construction plans for a structure, a list of plumbing

fixtures to be installed, local code requirements, and references.

STANDARD: Per the Uniform Plumbing Code (UPC).

# PERFORMANCE STEPS:

- 1. Review construction plans, local code, and references.
- 2. Review list of plumbing fixtures/appliances to be installed.
- 3. Identify plumbing symbols.
- 4. Determine code requirements.
- 5. Identify water supply requirements.
- 6. Identify sanitary drainage requirements.
- 7. Identify vent requirements.
- 8. Plot plumbing system/fixtures on construction plans.
- 9. Estimate man-hour requirements.
- 10. Determine risks, conducting operational risk assessments.
- 11. Establish a Bill of Materials (BOM), including safety items.
- 12. Establish a Course of Action (COA).

**PREREQUISITE EVENTS:** 1171-XENG-1981

# RELATED EVENTS:

 1169-XENG-2581
 1171-XENG-1985
 1171-XENG-1986

 1171-XENG-2987
 1171-XENG-2988
 1171-XENG-2989

### **REFERENCES:**

- 1. ATTP 5-0.1 Commander and Staff Officer Guide
- 2. FM 5-553 General Drafting
- 3. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 4. MCRP 3-17.7F Project Management
- 5. MCRP 3-17.7M Construction Estimating
- 6. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 7. TM 5-704 Construction Print Reading in the Field
- 8. UPC (IAPMO/ANSI) Uniform Plumbing Code by International Association of Plumbing and Mechanical Officials/American National Standard Institute

# SUPPORT REQUIREMENTS:

**MATERIAL:** Construction plans

1171-XENG-2651: Develop a water source

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Section Head, Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: At a water source, with water reconnaissance report, water support plan and established Course of Action (COA) from an Operation Order, equipment, personnel, material, and references.

STANDARD: So unit's mission is supported with required volume of water.

### PERFORMANCE STEPS:

- 1. Review COA, DA Form 1712-R and references.
- 2. Reassess operational risk.
- 3. Don Personal Protective Equipment (PPE).
- 4. Verify water depth and flow rate.
- 5. Develop site/source to enhance volume of water available.
- 6. Set up raw water pump(s).
- 7. Deploy raw water suction hose(s) and accessories.
- 8. Camouflage equipment and accessories.
- 9. Ensure site security.

### PREREQUISITE EVENTS:

| 1171-ADMN-1001 | 1171-XENG-2501 | 1171-XENG-2502 |
|----------------|----------------|----------------|
| 1171-XENG-2553 |                |                |

### **RELATED EVENTS:**

| 1171-XENG-1604 | 1171-XENG-1648 | 1171-XENG-1702 |
|----------------|----------------|----------------|
| 1171-XENG-2653 | 1171-XENG-2752 |                |

# **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 5. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 6. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 7. MCRP 3-17.7F Project Management
- 8. MCRP 4-11B Environmental Considerations
- 9. MCWP 3-17.4 Engineer Reconnaissance
- 10. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 11. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 12. NAVMED P-5010-5 Manual of Naval Preventive Medicine, Chapter 5, Water Supply Ashore

# SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Water Pump(s) (as designated by water support plan)
Earthmoving equipment (if required to develop site)
Strainer(s)
Intake screen(s)

#### MATERIAL:

Area topographical map
DA Form 1712-R (Water Reconnaissance Report)
Water Smartcard (see Figure C-3 of MCWP 3-17.4)
Area reconnaissance report
Course of Action (COA)
Anchor(s)

Rope

Sand bags

# UNITS/PERSONNEL:

MOS 1345 (Engineer Equipment Operator) to move earth (if required) MOS 1171 (Water Support Technician) to install equipment

### **MISCELLANEOUS:**

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Tactical situation, ORA and other changes encountered at a given source may ultimately determine final COA for source development.

<u>1171-XENG-2653</u>: Direct field water purification/storage/distribution system installation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Section Head, Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, water support plan and established Course of Action (COA), camp layout, equipment, personnel, material, and references.

**STANDARD:** So unit's mission is safely supported in accordance with the Operation Order.

# PERFORMANCE STEPS:

- 1. Review the Operation Order, water support plan, Water Reconnaissance Report, and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Review equipment technical manuals.
- 5. Brief installation crew.
- 6. Supervise water source development.
- 7. Supervise water purification equipment set up.
- 8. Supervise field water storage equipment set up.
- 9. Supervise field water distribution system installation.
- $10. \ {\tt Inspect\ installed\ field\ water\ purification/storage/distribution\ system.}$
- 11. Inspect equipment grounding.
- 12. Ensure inspection of installed system by preventive medicine personnel.
- 13. Correct discrepancies.

**PREREQUISITE EVENTS:** 1171-XENG-2553

#### RELATED EVENTS:

| 1171-XENG-1604 | 1171-XENG-1648 | 1171-XENG-1677 |
|----------------|----------------|----------------|
| 1171-XENG-1678 | 1171-XENG-1680 | 1171-XENG-1684 |
| 1171-XENG-1685 | 1171-XENG-1702 | 1171-XENG-2502 |

| 1171-XENG-2651 | 1171-XENG-2655 | 1171-XENG-2658 |
|----------------|----------------|----------------|
| 1171-XENG-2752 | 1171-XENG-2753 | 1171-XENG-2754 |
| 1171-XENG-2853 |                |                |

# **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 5. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 6. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 7. MCRP 3-17.7F Project Management
- 8. MCRP 3-17.7N Base Camps
- 9. MCRP 4-11B Environmental Considerations
- 10. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 11. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 12. NAVMED P-5010-5 Manual of Naval Preventive Medicine, Chapter 5, Water Supply Ashore
- 13. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Water Quality Analysis Set, Purification (WQAS-P) [B2630]

Forklift (with capacity to lift designated water support equipment)

Earthmoving equipment (if required to prepare site(s))

Electric power generation and distribution equipment (if required)

Water support equipment as designated by the water support plan

#### MATERIAL:

DA Form 1712-R (Water Reconnaissance Report)
Water support plan with established Course of Action (COA)
DA Form 1712-R (Water Reconnaissance Report)
Water Smartcard (see Figure C-3 of MCWP 3-17.4)
Spill containment materials
Warning signs

# UNITS/PERSONNEL:

MOS 1345 (Engineer Equipment Operator) to prepare site(s) and move Equipment
MOS 1141 (Electrician) to establish electrical power support
MOS 1171 (Water Support Technician) (quantity designated by water support plan) to set up/install equipment
Preventive Medicine Technician

# MISCELLANEOUS:

# ADMINISTRATIVE INSTRUCTIONS:

Only licensed Marines (MOS 1171) will install/operate water support Equipment

Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for system installation

**SPECIAL PERSONNEL CERTS:** Personnel must be licensed MOS 1171 water support technicians to install and operate water support equipment.

1171-XENG-2655: Direct field hygiene equipment set up

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Section Head, Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, hygiene support plan and established Course of Action (COA), camp layout, equipment, personnel, material, and references.

**STANDARD:** So unit's mission is safely supported in accordance with the Operation Order.

### PERFORMANCE STEPS:

- 1. Review the Operation Order, hygiene support plan, and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Review equipment technical manuals.
- 5. Brief installation crew.
- 6. Supervise set up of field shower facility (if required).
- 7. Supervise set up of laundry unit(s) (if required).
- 8. Supervise set up of M-80/M-85 water heater(s) (if required).
- 9. Inspect set up field hygiene equipment.
- 10. Inspect equipment grounding.
- 11. Ensure inspection of installed equipment by preventive medicine personnel.
- 12. Correct discrepancies.

# PREREQUISITE EVENTS: 1171-XENG-2555

# RELATED EVENTS:

| 1171-XENG-1631 | 1171-XENG-1632 | 1171-XENG-1678 |
|----------------|----------------|----------------|
| 1171-XENG-2653 | 1171-XENG-2658 | 1171-XENG-2755 |
| 1171-XENG-2855 |                |                |

- 1. Appropriate Technical Manuals
- 2. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 3. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 4. MCRP 3-17.7F Project Management
- 5. MCRP 3-17.7N Base Camps
- 6. MCRP 4-11.1D Field Hygiene and Sanitation
- 7. MCRP 4-11B Environmental Considerations
- 8. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary

- Control and Surveillance of Field Water Supplies
- 9. TB MED 593 Guidelines for Field Waste Management
- 10. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Forklift (with capacity to lift designated hygiene equipment)
Earthmoving equipment (if required to prepare site(s))
Electric power generation and distribution equipment (if required)
Hygiene equipment as designated by the hygiene support plan

### MATERIAL:

Hygiene support plan with established Course of Action (COA) Spill containment materials Warning signs

# UNITS/PERSONNEL:

MOS 1345 (Engineer Equipment Operator) to prepare site(s) and move Equipment
MOS 1141 (Electrician) to establish electrical power support
MOS 1171 (Water Support Technician) (quantity designated by hygiene support plan) to set up equipment
Preventive Medicine Technician

# MISCELLANEOUS:

### ADMINISTRATIVE INSTRUCTIONS:

Only licensed Marines (MOS 1171) will install/operate hygiene equipment Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for system installation

**SPECIAL PERSONNEL CERTS:** Personnel must be licensed MOS 1171 water support technicians to install and operate hygiene equipment.

1171-XENG-2658: Direct camp sanitation system installation

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Section Head, Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: With an Operation Order, field sanitation plan and established Course of Action (COA), environmental impact report, area map, camp layout, equipment, personnel, material, and references.

STANDARD: So unit's mission is safely supported in accordance with the

Operation Order.

### PERFORMANCE STEPS:

- 1. Review the Operation Order, field sanitation plan, environmental impact report, and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Brief installation crew.
- 5. Supervise installation of grease traps (if required).
- 6. Supervise installation of head/latrines (if required).
- 7. Supervise installation of garbage pits (if required).
- 8. Supervise installation of soakage pits (if required).
- 9. Inspect installed sanitation system.
- 10. Ensure inspection of installed system by preventive medicine personnel.
- 11. Correct discrepancies.

# **PREREQUISITE EVENTS:** 1171-XENG-2558

# RELATED EVENTS:

| 1171-XENG-1605 | 1171-XENG-1631 | 1171-XENG-1632 |
|----------------|----------------|----------------|
| 1171-XENG-2653 | 1171-XENG-2655 | 1171-XENG-2858 |

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. INSTALLATION SOP Installation's Standing Operating Procedures
- 3. MCO P5090.2\_ Environmental Compliance and Protection Manual
- 4. MCRP 3-17.6A Camouflage, Concealment, and Decoys
- 5. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 6. MCRP 3-17.7F Project Management
- 7. MCRP 3-17.7N Base Camps
- 8. MCRP 4-11.1D Field Hygiene and Sanitation
- 9. MCRP 4-11B Environmental Considerations
- 10. MCWP 3-41.1 Rear Area Operations
- 11. TB MED 593 Guidelines for Field Waste Management
- 12. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment

# SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Earthmoving equipment (if required to prepare site(s))

Equipment designated by the sanitation plan

#### MATERIAL:

Sanitation plan with established Course of Action (COA) Material designated by the sanitation plan Warning signs

# UNITS/PERSONNEL:

MOS 1345 (Engineer Equipment Operator) to prepare site(s)

MOS 1371 (Combat Engineer) to construct sanitation devices

MOS 1171 (Water Support Technician) (quantity designated by sanitation

plan) to install device(s)/develop site(s)
Preventive Medicine Technician

OTHER SUPPORT REQUIREMENTS: Marines of any MOS can assist in establishing and maintaining sanitary sites/devices

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for site development.

1171-XENG-2752: Monitor water test equipment measurements

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Section Head, Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With water test measurement reports, equipment, and references.

STANDARD: So continuous safety of unit's potable water supply is maintained per NAVMED P-5010-10.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review test measurement reports.
- 3. Test water.
- 4. Ensure measurements are within standards.
- 5. Take necessary actions to improve product water quality, disabling any PMT in the area.

**PREREQUISITE EVENTS:** 1171-XENG-1702

# RELATED EVENTS:

| 1171-XENG-1604 | 1171-XENG-1648 | 1171-XENG-1677 |
|----------------|----------------|----------------|
| 1171-XENG-1678 | 1171-XENG-1680 | 1171-XENG-1684 |
| 1171-XENG-1685 | 1171-XENG-1748 | 1171-XENG-1771 |
| 1171-XENG-2502 | 1171-XENG-2753 | 1171-XENG-2754 |

- 1. FM 10-52 Water Supply in Theaters of Operation
- 2. FM 10-52-1 Water Supply Point Equipment and Operations
- 3. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 4. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 5. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 6. TM 10-6630-222-12&P Operator and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Water Quality Analysis Set: Purification (WQAS-P)
- 7. TM 5-813-3 Water Supply, Water Treatment

- 8. TM 5-813-4 Water Supply, Water Storage
- 9. TM 5-813-5 Water Supply, Water Distribution

#### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Water Quality Analysis Set, Purification (WQAS-P) [B2630]

MATERIAL: Water test measurement reports

### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Graduates of the Basic Water Support Technician Course (CID: M031102) are licensed operators of the Water Quality Analysis Set, Purification (WQAS-P) [B2630]

**SPECIAL PERSONNEL CERTS:** Operators of the Water Quality Analysis Set, Purification (WQAS-P) [B2630] must be licensed.

<u>1171-XENG-2753</u>: Direct field water purification/storage/distribution system operation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Section Head, Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: With an operation order, camp layout, water purification/storage/distribution system, operators, and references.

**STANDARD:** So unit's mission is safely supported in accordance with the Operation Order.

# PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Inspect installed water purification/storage/distribution system.
- 3. Review safety concerns.
- 4. Review environmental concerns.
- 5. Establish operator schedule.
- 6. Brief personnel.
- 7. Supervise operation of water purification equipment.
- 8. Supervise the operation of water storage/distribution system.
- 9. Supervise operation of Forward Area Water Point Supply Systems.
- 10. Supervise operation of SIXCON module systems.
- 11. Supervise operation of water pump assemblies.
- 12. Supervise use of collapsible tanks and bladders.
- $13.\ {\hbox{\footnotesize Ensure}}$  water quantity and quality meet requirements.
- 14. Ensure all water production reports and logs are completed and submitted.
- 15. Supervise water purification/storage/distribution equipment operator

maintenance.

16. Ensure records/reports are updated/completed.

# PREREQUISITE EVENTS:

1171-XENG-1702 1171-XENG-2651 1171-XENG-2653

1171-XENG-2752 1171-XENG-2754

RELATED EVENTS:

1169-XENG-2753 1171-XENG-2553 1171-XENG-2755

# **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. FM 10-52 Water Supply in Theaters of Operation
- 3. FM 10-52-1 Water Supply Point Equipment and Operations
- 4. JP 4-03 Joint Bulk Petroleum and Water Doctrine
- 5. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 8. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 9. NAVMED P-5010-5 Manual of Naval Preventive Medicine, Chapter 5, Water Supply Ashore
- 10. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 11. TM 4700-15/1\_ Ground Equipment Record Procedures
- 12. TM 5-813-1 Water Supply, Sources and General Considerations
- 13. TM 5-813-3 Water Supply, Water Treatment
- 14. TM 5-813-4 Water Supply, Water Storage
- 15. TM 5-813-5 Water Supply, Water Distribution
- 16. TM 5-813-7 Water Supply for Special Projects
- 17. TM 5-813-8 Water Desalination
- 18. TM 5-813-9 Water Supply, Pumping Stations
- 19. TM 5-820-4 Drainage for Areas Other Than Airfields

# SUPPORT REQUIREMENTS:

<u>UNITS/PERSONNEL</u>: MOS 1171 (Water Support Technicians) to operate/maintain equipment and system

1171-XENG-2754: Calculate chlorine demand

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Water Support Technician

**GRADES:** CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** At a potable water source, with equipment, and references.

STANDARD: So post treatment of potable water is maintained at a safe level.

### PERFORMANCE STEPS:

- 1. Ensure potable water is secure, disabling any PMT in the area.
- 2. Don Personal Protective Equipment (PPE).
- 3. Perform chlorine residual test.
- 4. Identify chlorine residual standards.
- 5. Determine chlorine requirements.

# PREREQUISITE EVENTS:

1171-XENG-1604 1171-XENG-1648 1171-XENG-1702

### RELATED EVENTS:

1171-XENG-2653 1171-XENG-2752 1171-XENG-2753

#### **REFERENCES:**

- 1. FM 10-52 Water Supply in Theaters of Operation
- 2. FM 10-52-1 Water Supply Point Equipment and Operations
- 3. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 4. NAVMED P-5010-10 Manual of Naval Preventive Medicine, Chapter 10, Sanitary Control and Surveillance of Field Water Supplies
- 5. TM 10-6630-222-12&P Operator and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Water Quality Analysis Set: Purification (WOAS-P)
- 6. TM 5-813-3 Water Supply, Water Treatment
- 7. TM 5-813-4 Water Supply, Water Storage
- 8. TM 5-813-5 Water Supply, Water Distribution

# **SUPPORT REQUIREMENTS:**

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Water Quality Analysis Set, Purification (WQAS-P) [B2630]

MATERIAL: Water sample(s) from water storage/supply point.

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Graduates of the Basic Water Support Technician Course (CID: M031102) are licensed operators of the Water Quality Analysis Set, Purification (WQAS-P) [B2630].

**SPECIAL PERSONNEL CERTS:** Operators of the Water Quality Analysis Set, Purification (WQAS-P) [B2630] must be licensed.

**1171-XENG-2755:** Direct field hygiene equipment operation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Section Head, Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, camp layout, hygiene equipment, operators, and references.

<u>STANDARD</u>: So unit's mission is safely supported in accordance with the Operation Order.

# PERFORMANCE STEPS:

- 1. Review Operation Order and camp layout.
- 2. Inspect installed hygiene equipment.
- 3. Review safety concerns.
- 4. Review environmental concerns.
- 5. Establish operator schedule.
- 6. Brief personnel.
- 7. Supervise operation of laundry units.
- 8. Supervise operation of shower facilities.
- 9. Supervise operation of water heaters.
- 10. Ensure drainage system is functioning properly.
- 11. Ensure daily sanitation standards are met.
- 12. Supervise hygiene equipment operator maintenance.
- 13. Ensure records/reports are updated/completed.

# PREREQUISITE EVENTS:

1171-XENG-2655 1171-XENG-2658

### RELATED EVENTS:

1169-XENG-2755 1171-XENG-2555 1171-XENG-2753

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. INSTALLATION SOP Installation's Standing Operating Procedures
- 3. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 4. MCRP 4-11.1D Field Hygiene and Sanitation
- 5. MCRP 4-11B Environmental Considerations
- 6. TB MED 593 Guidelines for Field Waste Management
- 7. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 8. TM 4700-15/1 Ground Equipment Record Procedures
- 9. TM 9406-15\_ Grounding Procedures for Electromagnetic Interference Control and Safety

# SUPPORT REQUIREMENTS:

<u>UNITS/PERSONNEL</u>: MOS 1171 (Water Support Technicians) to operate/maintain equipment

<u>1171-XENG-2853</u>: Direct field water purification/storage/distribution system recovery

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**BILLETS:** Section Head, Water Support Technician

GRADES: CPL, SGT, SSGT

# INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an operation order, camp layout, equipment, personnel, and references.

**STANDARD:** So equipment is available for redeployment and equipment records are updated.

## PERFORMANCE STEPS:

- 1. Review the Operation Order and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Brief recovery crew.
- 5. Supervise recovery of water purification equipment.
- 6. Supervise water storage equipment recovery.
- 7. Supervise water distribution equipment recovery.
- 8. Ensure Limited Technical Inspections (LTI) are conducted/recorded.
- 9. Ensure SL-3/BII inventories are conducted/recorded.
- 10. Resolve discrepancies.

### RELATED EVENTS:

| 1171-ADMN-1007 | 1171-ADMN-1008 | 1171-ADMN-1009 |
|----------------|----------------|----------------|
| 1171-ADMN-1011 | 1171-XENG-1604 | 1171-XENG-1648 |
| 1171-XENG-1677 | 1171-XENG-1678 | 1171-XENG-1680 |
| 1171-XENG-1684 | 1171-XENG-1685 | 1171-XENG-2653 |
| 1171-XENG-2753 | 1171-XENG-2855 | 1171-XENG-2858 |

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCRP 4-11.4A Recovery and Battle Damage Assessment and Repair
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)

General Mechanics Tool Kit (GMTK) [C7915]

Forklift (with capacity to lift water support equipment)

MATERIAL: Water support plan with established Course of Action (COA)

# UNITS/PERSONNEL:

MOS 1171 (Water Support Technician) (quantity designated by water support plan)

MOS 1345 (Engineer Equipment Operator) to move equipment

<u>1171-XENG-2855</u>: Direct field hygiene equipment recovery

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Section Head, Water Support Technician

GRADES: CPL, SGT, SSGT

## INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an operation order, camp layout, equipment, personnel, and references.

**STANDARD:** So equipment is available for redeployment and equipment records are updated.

### PERFORMANCE STEPS:

- 1. Review the Operation Order and camp layout.
- 2. Review safety requirements.
- 3. Review environmental requirements.
- 4. Brief recovery crew.
- 5. Supervise shower facility recovery.
- 6. Supervise laundry unit recovery.
- 7. Ensure Limited Technical Inspections (LTI) are conducted/recorded.
- 8. Ensure SL-3/BII inventories are conducted/recorded.
- 9. Resolve discrepancies.

### **RELATED EVENTS:**

| 1171-ADMN-1007 | 1171-ADMN-1008 | 1171-ADMN-1009 |
|----------------|----------------|----------------|
| 1171-ADMN-1011 | 1171-XENG-1631 | 1171-XENG-1632 |
| 1171-XENG-1678 | 1171-XENG-2655 | 1171-XENG-2755 |
| 1171-XENG-2853 | 1171-XENG-2858 |                |

### **REFERENCES:**

- 1. MCRP 4-11.4A Recovery and Battle Damage Assessment and Repair
- SL-3-01034 Components List for Tank, Fabric, Collapsible, Water Storage, 3,000 Gallon
- 3. SL-3-10006A Components List for Bath Shower Unit, Expedition
- 4. TM 01034E-12&P/1 Operator's and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Tank, Fabric, Collapsible, Water Storage, 3,000 Gallons
- 5. TM 10006A-14&P/14 Erection, Operation, Storage, Inspection and Maintenance Instructions with Illustrated Parts Breakdown for Shower Facility, Bare Base
- 6. TM 10-4520-259-13&P Operator's, Unit and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) for Heater, Water, Liquid Fuel, Models M-80 and M-85
- 7. TM 10-4630-206-12&P Operator and Unit Maintenance Manual (Including Repair Parts and Special Tools List) for Sewage Ejection Pump (SEP)
- 8. TM 11413A-OI/1 Operator/Maintenance Manual Instructions with Repair Parts and Special Tools List (RPSTL) for Containerized Batch Laundry
- 9. TM 4700-15/1\_ Ground Equipment Record Procedures

# SUPPORT REQUIREMENTS:

## **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Forklift (with capacity to lift hygiene equipment)

MATERIAL: Hygiene support plan with established Course of Action (COA)

## UNITS/PERSONNEL:

MOS 1171 (Water Support Technician) (quantity designated by hygiene support plan)

MOS 1345 (Engineer Equipment Operator) to move equipment

1171-XENG-2858: Direct field waste water system recovery/closure

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Section Head, Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With an Operation Order, environmental impact report, area map, camp layout, equipment, personnel, and references.

**STANDARD:** So reusable devices are recovered and waste areas are covered, marked, and recorded.

### PERFORMANCE STEPS:

- 1. Review the Operation Order and camp layout.
- 2. Review safety requirements.
- 3. Review environmental impact report and area map.
- 4. Inspect sanitation system.
- 5. Brief recovery/closure crew.
- 6. Supervise recovery of sanitation devices/warning signs.
- 7. Supervise closure of sanitation pits.
- 8. Supervise marking of closed sanitation system.
- 9. Inspect closed/marked sanitation system.
- 10. Ensure inspection of closed/marked system by preventive medicine personnel.
- 11. Ensure closed latrine sites are recorded on area map.
- 12. Forward marked map to those concerned.

## RELATED EVENTS:

1171-XENG-1605 1171-XENG-1805 1171-XENG-2658 1171-XENG-2855

# REFERENCES:

- 1. INSTALLATION SOP Installation's Standing Operating Procedures
- 2. MCRP 4-11.1D Field Hygiene and Sanitation
- 3. MCRP 4-11B Environmental Considerations
- 4. TB MED 593 Guidelines for Field Waste Management

## SUPPORT REQUIREMENTS:

# **EQUIPMENT:**

Personal Protective Equipment (PPE)
General Mechanics Tool Kit (GMTK) [C7915]
Earthmoving equipment (to cover sanitation pits)

## MATERIAL:

Area map

Environmental impact report

Field sanitation plan with established Course of Action (COA)

UNITS/PERSONNEL: MOS 1345 (Engineer Equipment Operator) for earth moving
requirements

OTHER SUPPORT REQUIREMENTS: Marines of any MOS can assist in recovery and closure of sanitation devices/pits

### MISCELLANEOUS:

### ADMINISTRATIVE INSTRUCTIONS:

Tactical situation, ORA and other changes encountered at a given site may ultimately determine final COA for site closure

A map/diagram of closed site(s) should be forwarded to higher headquarters per Installation's SOP

**1171-XENG-2983:** Thread pipe

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 24 months

BILLETS: Water Support Technician

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** At a structure requiring plumbing work, with a plumbing plan, a length of pipe, tools, and references.

**STANDARD:** So pipe will accept designated fittings for the structure's plumbing system per the plumbing plan.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review plumbing plan.
- 3. Assess risks (ORM).
- 4. Don Personal Protective Equipment (PPE).
- 5. Secure pipe (in a vise or by other means).
- 6. Thread the pipe to depth required and with tool and die designated by fitting/plumbing plan.
- 7. Test threads.

### PREREQUISITE EVENTS:

1171-XENG-1981 1171-XENG-1982 1171-XENG-1984

### RELATED EVENTS:

1171-XENG-1985 1171-XENG-1986

## REFERENCES:

1. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage

- 2. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 3. UPC (IAPMO/ANSI) Uniform Plumbing Code by International Association of Plumbing and Mechanical Officials/American National Standard Institute

## SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Plumbing tools

MATERIAL: Bill of Materials (BOM)

1171-XENG-2987: Inspect an interior plumbing system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** At a structure with an installed interior plumbing system, with tools, personnel, and references.

**STANDARD:** So ability of plumbing system to meet code requirements is determined, safety concerns are addressed, and required repairs/upgrades identified.

# PERFORMANCE STEPS:

- 1. Review code requirements.
- 2. Access operational risk.
- 3. Don Personal Protective Equipment (PPE).
- 4. Ensure any stored/hazardous energy is dissipated/controlled (Lockout/Tagout).
- 5. Identify and record type and serviceability of fixtures.
- 6. Determine capabilities/serviceability of water supply system.
- 7. Determine capabilities/serviceability of sanitary drainage system.
- 8. Determine serviceability of vent system.
- 9. Identify part(s) of plumbing system that fail to comply with code requirements.
- 10. List discrepancies identified, specifying corrective action(s) required.

### PREREQUISITE EVENTS:

1171-ADMN-1001 1171-ADMN-1002

### RELATED EVENTS:

1171-XENG-1981 1171-XENG-1985 1171-XENG-1986 1171-XENG-2581 1171-XENG-2988 1171-XENG-2989

### **REFERENCES:**

- 1. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 2. UPC (IAPMO/ANSI) Uniform Plumbing Code by International Association of

Plumbing and Mechanical Officials/American National Standard Institute

# SUPPORT REQUIREMENTS:

### **EQUIPMENT:**

Personal Protective Equipment (PPE)
Plumbing tools

UNITS/PERSONNEL: MOS 1171 (Water Support Technician)

1171-XENG-2988: Direct interior plumbing system installation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: At a structure requiring plumbing, with an interior plumbing system plan, Bill of Materials (BOM), personnel, tools, and references.

**STANDARD:** So structure has plumbing per the interior plumbing plan, in compliance with the Uniform Plumbing Code (UPC).

### PERFORMANCE STEPS:

- 1. Review the blueprints, plumbing plan and Bill of Materials (BOM).
- 2. Determine safety/code requirements.
- 3. Brief installation crew.
- 4. Inventory BOM.
- 5. Supervise installation of water supply system.
- 6. Supervise installation of sanitary drainage system.
- 7. Supervise installation of vent system.
- 8. Supervise installation of fixtures.
- 9. Test the installed plumbing system.

### RELATED EVENTS:

| 1171-XENG-1981 | 1171-XENG-1982 | 1171-XENG-1984 |
|----------------|----------------|----------------|
| 1171-XENG-1985 | 1171-XENG-1986 | 1171-XENG-2581 |
| 1171-XENG-2983 | 1171-XENG-2987 | 1171-XENG-2989 |

## **REFERENCES:**

- 1. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 2. MCRP 3-17.7F Project Management
- 3. TM 5-704 Construction Print Reading in the Field
- 4. UPC (IAPMO/ANSI) Uniform Plumbing Code by International Association of Plumbing and Mechanical Officials/American National Standard Institute

# **SUPPORT REQUIREMENTS:**

# **EQUIPMENT:**

Personal Protective Equipment (PPE)

Plumbing tools

MATERIAL: Bill of Materials (BOM)

UNITS/PERSONNEL: MOS 1171 (Water Support Technician)

1171-XENG-2989: Direct interior plumbing system repairs

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Water Support Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** At a structure with a faulty plumbing system, a report detailing specific repairs to be made, a Bill of Materials (BOM), tools, and references.

**STANDARD:** So repairs detailed on the report are made and system is brought into compliance with the Uniform Plumbing Code (UPC).

### PERFORMANCE STEPS:

- 1. Examine the plumbing system needing repairs.
- 2. Review references, determining safety/code requirements.
- 3. Assess risks (ORM).
- 4. Review blueprints, plumbing plan and Bill of Materials (BOM).
- 5. Brief repair crew.
- 6. Inventory BOM.
- 7. Supervise repairs to water supply system.
- 8. Supervise repairs to sanitary drainage system.
- 9. Supervise repairs to vent system.
- 10. Supervise replacement of fixtures.
- 11. Test the repaired plumbing system.

# PREREQUISITE EVENTS: 1171-ADMN-1001

### **RELATED EVENTS:**

| 1171-XENG-1981 | 1171-XENG-1982 | 1171-XENG-1984 |
|----------------|----------------|----------------|
| 1171-XENG-1985 | 1171-XENG-1986 | 1171-XENG-2581 |
| 1171-XENG-2983 | 1171-XENG-2987 | 1171-XENG-2988 |

#### REFERENCES:

- 1. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 2. MCRP 3-17.7F Project Management
- 3. TB SIG 222 Solder and Soldering
- 4. TM 5-704 Construction Print Reading in the Field
- 5. UPC (IAPMO/ANSI) Uniform Plumbing Code by International Association of Plumbing and Mechanical Officials/American National Standard Institute

# SUPPORT REQUIREMENTS:

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# **EQUIPMENT:**

Personal Protective Equipment (PPE)
Plumbing tools

MATERIAL: Bill of Materials (BOM)

UNITS/PERSONNEL: MOS 1171 (Water Support Technician)

# ENG & UTIL T&R MANUAL

# CHAPTER 13

# MOS 1302 INDIVIDUAL EVENTS

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## ENG & UTIL T&R MANUAL

## CHAPTER 13

### MOS 1302 INDIVIDUAL EVENTS

- 13000. PURPOSE. This chapter details the individual events that pertain to Combat Engineer Officer. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful.
- 13001. EVENT CODING. Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX-XXXX. This chapter utilizes the following methodology
- a. Field one. This field represents the community. This chapter contains the following community codes:

| Code | Descrip | ption    |         |
|------|---------|----------|---------|
| 1302 | Combat  | Engineer | Officer |

b. Field two. This field represents the functional/duty area. This chapter contains the following functional/duty areas:

| Code | Description             |
|------|-------------------------|
| ADMN | Administration          |
| CMOB | Counter-mobility        |
| DEMO | Demolitions             |
| EOPS | Engineer Operations     |
| FUEL | Bulk Fuel               |
| HORZ | Horizontal Construction |
| MANT | Maintenance             |
| MAR  | March                   |
| MOBL | Mobility                |
| PLAN | Planning                |
| RECN | Engineer Reconnaissance |
| SURV | Survivability           |
| VERT | Vertical Construction   |
|      |                         |

c. Field three. This field provides the level at which the event is accomplished and numerical sequencing of events. This chapter contains the following event levels:

| Code | Description      |
|------|------------------|
| 1000 | Core Skills      |
| 2000 | Core Plus Skills |

## 13002. INDEX OF INDIVIDUAL EVENTS

| EVENT CODE | EVENT | PAGE |
|------------|-------|------|

|                | 1000-LEVEL EVENTS                                           |       |
|----------------|-------------------------------------------------------------|-------|
| 1302-ADMN-1001 | Manage unit training                                        | 13-4  |
| 1302-ADMN-1002 | Deliver a military brief                                    | 13-5  |
| 1302-CMOB-1001 | Plan the emplacement of an obstacle                         | 13-5  |
| 1302-CMOB-1002 | Plan construction of vehicle checkpoints as a part of       | 13-6  |
|                | an countermobility plan                                     |       |
| 1302-CMOB-1003 | Prepare an obstacle plan                                    | 13-7  |
| 1302-DEMO-1001 | Plan for demolition operations                              | 13-7  |
| 1302-DEMO-1002 | Detonate demolitions                                        | 13-8  |
| 1302-DEMO-1003 | Engage targets with expedient demolitions                   | 13-10 |
| 1302-DEMO-1004 | Plan destruction of Captured Enemy Ammunition (CEA)         | 13-11 |
| 1302-EOPS-1001 | Design concrete mix                                         | 13-11 |
| 1302-EOPS-1002 | Design concrete structures                                  | 13-12 |
| 1302-EOPS-1003 | Design concrete forms                                       | 13-13 |
| 1302-EOPS-1004 | Plan airfield damage repair (ADR Operations)                | 13-14 |
| 1302-EOPS-1005 | Develop mobile electric power                               | 13-15 |
|                | distribution/redistribution plan                            |       |
| 1302-EOPS-1006 | Develop field water distribution system                     | 13-15 |
| 1302-EOPS-1007 | Arrange external support for engineer                       | 13-16 |
|                | projects/operations                                         |       |
| 1302-EOPS-1008 | Conduct range operations                                    | 13-17 |
| 1302-EOPS-1009 | Establish project/operation schedules                       | 13-17 |
| 1302-FUEL-1001 | Plan fuel operations                                        | 13-18 |
| 1302-HORZ-1001 | Plan a horizontal construction project                      | 13-19 |
| 1302-HORZ-1002 | Plan construction of drainage systems                       | 13-20 |
| 1302-HORZ-1003 | Conduct a field soil analysis                               | 13-21 |
| 1302-MANT-1001 | Manage a Consolidated Memorandum Receipt (CMR)              | 13-21 |
| 1302-MANT-1002 | Manage an organizational maintenance program                | 13-22 |
| 1302-MOBL-1001 | Plan a military road                                        | 13-23 |
| 1302-MOBL-1002 | Plan dismounted route sweep operations                      | 13-24 |
| 1302-MOBL-1003 | Plan Route and Area Clearance (RAAC) operations             | 13-24 |
| 1302-MOBL-1004 | Conduct mobility operations in an Improvised Explosive      | 13-25 |
|                | Device (IED) environment                                    |       |
| 1302-MOBL-1005 | Plan breaching of a complex obstacle                        | 13-26 |
| 1302-MOBL-1006 | Conduct assault breaching into buildings                    | 13-27 |
| 1302-MOBL-1007 | Plan the reduction of strongpoints and structures           | 13-28 |
| 1302-MOBL-1008 | Operate a robot                                             | 13-29 |
| 1302-MOBL-1009 | Identify Explosive Hazards (EH)                             | 13-30 |
| 1302-MOBL-1010 | Reduce Explosive Hazards (EH)                               | 13-31 |
| 1302-MOBL-1011 | Design a ribbon bridge/raft                                 | 13-32 |
| 1302-MOBL-1012 | Design a Medium Girder Bridge (MGB)                         | 13-33 |
| 1302-MOBL-1013 | Design a non-standard bridge                                | 13-33 |
| 1302-MOBL-1014 | Classify a bridge                                           | 13-34 |
| 1302-MOBL-1015 | Plan engineer aspects of a gap crossing operation           | 13-34 |
| 1302-MOBL-1016 | Plan construction of an expeditionary airfield/landing zone | 13-35 |
| 1302-PLAN-1001 | Participate in the Marine Corps Planning Process (MCPP)     | 13-36 |
| 1302-PLAN-1002 | Plan a base camp                                            | 13-36 |
| 1302-RECN-1001 | Conduct engineer reconnaissance operations                  | 13-37 |
| 1302-SURV-1001 | Design survivability positions                              | 13-38 |
| 1302-SURV-1002 | Plan construction of blast mitigation measures              | 13-39 |

| 1302-SURV-1003 | Prepare a survivability plan                           | 13-40 |
|----------------|--------------------------------------------------------|-------|
| 1302-SURV-1004 | Plan construction of an entry access control point as  | 13-40 |
|                | a part of a protective barrier plan                    |       |
| 1302-SURV-1005 | Plan building hardening                                | 13-41 |
| 1302-VERT-1001 | Plan a vertical construction project                   | 13-42 |
|                | 2000-LEVEL EVENTS                                      |       |
| 1302-ADMN-2001 | Produce an engineer estimate                           | 13-45 |
| 1302-ADMN-2002 | Manage supported unit engineer requirements            | 13-47 |
| 1302-ADMN-2003 | Plan the integration of other service component        | 13-48 |
|                | engineer capabilities                                  |       |
| 1302-ADMN-2004 | Integrate contracted support into engineer operations  | 13-49 |
| 1302-ADMN-2005 | Assess an engineer unit's operational readiness        | 13-50 |
| 1302-ADMN-2006 | Support the Marine Corps Force Development System      | 13-51 |
|                | (MCFDS) process                                        |       |
| 1302-DEMO-2001 | Plan demolition operations                             | 13-52 |
| 1302-DEMO-2002 | Plan the integration of Explosive Ordnance Disposal    | 13-53 |
|                | (EOD) capabilities                                     |       |
| 1302-MAR-2001  | March with a fighting load                             | 13-53 |
| 1302-MOBL-2001 | Plan engineer Aviation Ground Support (AGS) operations | 13-54 |
| 1302-MOBL-2002 | Determine design criteria for contingency construction | 13-54 |
|                | operations                                             |       |
| 1302-RECN-2001 | Provide engineer inputs to the intelligence cycle      | 13-55 |
|                |                                                        |       |

## 13003. 1000-LEVEL EVENTS

1302-ADMN-1001: Manage unit training

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a unit training plan, time restraints, commander's intent, personnel, and equipment.

STANDARD: To meet requirements of the training plan and the commander's intent.

## PERFORMANCE STEPS:

- 1. Determine mission requirements based on unit missions, Mission Essential Task Lists, Mission Performance Standards, Collective Training Events and Individual Training Events.
- 2. Determine current unit capabilities, both individual and unit proficiency.
- 3. Identify training shortfalls and strengths of unit.
- 4. Determine specific training objectives to correct shortfalls in accordance with T&R manual and METs.
- 5. Develop logical sequence for training individual skills and collective task events.
- 6. Brief commander on training plan, as required.
- 7. Prepare a training schedule utilizing backwards planning.
- 8. Issue the order for training.

- 9. Coordinate logistical support.
- 10. Conduct a after action (hotwash) as required.

### **REFERENCES:**

- 1. MCO 3500.27\_ Operational Risk Management (ORM)
- 2. MCO 3501.1\_ Marine Corps Combat Readiness Evaluation (MCCRE)
- 3. MCRP 3-0A Unit Training Management Guide
- 4. MCRP 3-0B How to Conduct Training
- 5. NAVMC 3500.12\_ Marine Corps Engineer and Utilities Training and Readiness Manual

1302-ADMN-1002: Deliver a military brief

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

GRADES: 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission, commander's intent, and references.

**STANDARD:** To provide an oral description of the current engineer situation, proposed execution, and logistical support capabilities and limitations in accordance with MCWP 3-40.1 MAGTF Command and Control.

## PERFORMANCE STEPS:

- 1. Review the operations order and commander's intent.
- 2. Review the engineer situation.
- 3. Develop a briefing outline for the engineer situation.
- 4. Brief engineer situation to the commander.

# REFERENCES:

- 1. MCWP 3-17 Engineering Operations
- 2. MCWP 3-40.1 MAGTF Command and Control

1302-CMOB-1001: Plan the emplacement of an obstacle

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**GRADES:** 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

**<u>CONDITION</u>**: Given a tactical situation, an operations order, an obstacle plan overlay, and references.

**STANDARD:** To meet the requirements of the obstacle plan in accordance with MCWP 3-17.5 Combined Arms Obstacle Integration.

#### PERFORMANCE STEPS:

- 1. Analyze requirements outlined in the obstacle plan.
- 2. Conduct a site recon.
- 3. Task organize personnel and equipment.
- 4. Identify logistical requirements.
- 5. Coordinate security with supported maneuver elements as required.
- 6. Coordinate obstacle overwatch and coverage by fires with supported unit.
- 7. Verify the obstacle is effective based on the principles of obstacle employment.
- 8. Monitor construction/installation of the obstacle.
- 9. Submit required engineer reports.

#### REFERENCES:

- 1. GTA 90-01-011 Joint Forward Operations Base (JFOB) Protection Handbook
- 2. GTA 90-01-018 Joint Entry Control Point & Escalation of Force Procedures
- 3. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 4. MCRP 3-17.2D Explosive Hazard Operations
- 5. MCWP 3-1 Ground Combat Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance
- 7. MCWP 3-17.5 Combined Arms Obstacle Integration

1302-CMOB-1002: Plan construction of vehicle checkpoints as a part of an countermobility plan

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**GRADES:** 2NDLT, 1STLT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical situation, an operations order, a map, required personnel, equipment, and references.

STANDARD: To meet supported unit requirements outlined in the concept of operations of the operations order in accordance with MCWP 3-17.5 Combined Arms Obstacle Integration.

### PERFORMANCE STEPS:

- 1. Conduct mission analysis.
- 2. Conduct a site reconnaissance.
- 3. Develop obstacle/barrier plan as required to prevent bypass of the checkpoint.
- 4. Design vehicle checkpoint to provide holding areas, personnel holding areas, search areas, active vehicle barriers, and overwatch positions.
- 5. Develop bill of materials.
- 6. Identify logistical requirements.
- 7. Task organize personnel and equipment.
- 8. Coordinate security with supported maneuver elements as required.
- 9. Estimate construction time.
- 10. Generate sketches as required.

### **REFERENCES:**

1. GTA 90-01-011 Joint Forward Operations Base (JFOB) Protection Handbook

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- 2. GTA 90-01-018 Joint Entry Control Point & Escalation of Force Procedures
- 3. MCRP 3-17A Engineer Field Data
- 4. MCWP 3-17.5 Combined Arms Obstacle Integration
- 5. MCWP 3-17.6 Survivability Operations
- 6. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

1302-CMOB-1003: Prepare an obstacle plan

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical situation, an operations order, a map, and references.

**STANDARD:** That recommends types of obstacles; obstacle placement; the resources required to construct the obstacles; and an obstacle overlay, which support the scheme of maneuver by fixing, turning, blocking or disrupting enemy movement.

### PERFORMANCE STEPS:

- 1. Conduct mission analysis.
- 2. Conduct fires analysis.
- 3. Determine obstacle intent integration with fires.
- 4. Determine obstacle priorities.
- 5. Determine mobility requirements.
- 6. Determine obstacle design and resourcing.
- 7. Prepare an overlay and obstacle plan appendix to operations order.

## REFERENCES:

- 1. GTA 90-01-011 Joint Forward Operations Base (JFOB) Protection Handbook
- 2. GTA 90-01-018 Joint Entry Control Point & Escalation of Force Procedures
- 3. MCDP 1 Warfighting
- 4. MCDP 1-3 Tactics
- 5. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 3-1 Ground Combat Operations
- 8. MCWP 3-17 Engineering Operations
- 9. MCWP 3-17.5 Combined Arms Obstacle Integration
- 10. MCWP 3-40.1 MAGTF Command and Control

1302-DEMO-1001: Plan for demolition operations

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 3 months

**GRADES:** 2NDLT, 1STLT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical situation, a map, an operations order, equipment, personnel, and references.

**STANDARD:** To execute a demolition mission in support of the commander's intent and concept of operations in accordane with MCRP 3-17.7L Explosives and Demolitions.

### PERFORMANCE STEPS:

- 1. Conduct mission analysis.
- 2. Conduct target analysis.
- 3. Determine the amount of explosives required to achieve the desired effect.
- 4. Direct demo recon, as required.
- 5. Analyze required information from the DA Form 2203-R.
- 6. Complete the demolition target folder.
- 7. Estimate the logistics required based on the demolition reconnaissance.
- 8. Determine task organization of personnel and equipment.
- 9. Prioritize targets based on commander's intent.
- 10. Complete Directed and/or Situational Obstacle matrices and overlays, as required.

## **REFERENCES:**

- 1. MCRP 3-17.7L Explosives and Demolitions
- 2. MCRP 3-17A Engineer Field Data
- 3. MCRP 3-17B Engineer Forms and Reports
- 4. MCWP 3-17 Engineering Operations
- 5. STANAG 2123 Obstacle Folder

### SUPPORT REQUIREMENTS:

EQUIPMENT: MAP, DA Form 2203-R, NOTE TAKING GEAR

**1302-DEMO-1002:** Detonate demolitions

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

**GRADES:** 2NDLT, 1STLT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical situation, appropriate Class V material, a demolition kit, target material, personal protective equipment (PPE) and references.

**STANDARD:** To ensure all charges are constructed according to the method of use and ensuring detonation while observing all safety procedures in accordance with MCRP 3-17.7L Explosives and Demolitions.

# PERFORMANCE STEPS:

- 1. Review target folder.
- 2. Conduct target reconnaissance (to obtain critical dimensions necessary for charge calculations and firing point location).

- 3. Determine type of explosive to use.
- 4. Select formula calculation for single charge.
- 5. Determine number of charges/total amount of explosives and minimum safe distance.
- 6. Place the charge(s) on the target.
- 7. Prime the charge.
- 8. Tamp as required.
- 9. Detonate the explosive(s).
- 10. Conduct battle damage assessment.
- 11. Submit required engineer reports.

#### REFERENCES:

- 1. MCRP 3-17.2D Explosive Hazard Operations
- 2. MCRP 3-17.7L Explosives and Demolitions
- 3. MCRP 3-17A Engineer Field Data
- 4. MCRP 3-17B Engineer Forms and Reports

# SUPPORT REQUIREMENTS:

### **ORDNANCE:**

| 7112711 | <u>CD</u> •                          |                            |
|---------|--------------------------------------|----------------------------|
| DODI    | С                                    | Quantity                   |
| M023    | Chg, Demo Block M112 11/4 pound C4   | 1 charges per Marine       |
| M028    | Demo Kit, Bangalore Torpedo M1A2     | 1 cases per Team           |
| M030    | Chg, Demo Block TNT 1/4Pound         | 1 charges per Marine       |
| M032    | Chg, Demo Block TNT 1Pound           | 1 charges per Marine       |
| M039    | Chg, Demo Cratering 40Pound          | 1 charges per Team         |
| M130    | Cap, Blasting Electric M6            | 3 blasting caps per Marine |
| M131    | Cap, Blasting Non-Electric M7        | 5 blasting caps per Marine |
| M420    | Chg, Demo Shaped M2 Series 15Pound   | 1 charges per Team         |
| M421    | Chg, Demo Shaped M3 Series 40Pound   | 1 charges per Team         |
| M456    | Cord, Detonating PETN Type I Class E | 85 FT per Marine           |
| M591    | Dynamite, Military M1                | 2 charges per Marine       |
| M670    | Fuse, Blasting Time M700             | 40 FT per Marine           |
| M757    | Chg, Assembly Demo M183 Comp C4      | 1 cases per Team           |
| M982    | Chg, Demo Sheet 0.166 Inch Thick     | 1 FT per Marine            |
| MM30    | Chg, Flexible 20 Gram PETN MK140 Mod | 4 charges per Team         |
| MM44    | Chg, Demo FLSC 75 Gr/Ft              | 1 charges per Team         |
| MM45    | Chg, Demo FLSC 125 Gr/Ft             | 1 charges per Team         |
| MM47    | Chg, Demo FLSC 400 Gr/Ft             | 1 charges per Team         |
| MM48    | Chg, Demo FLSC 600 Gr/Ft             | 1 charges per Team         |
| MN08    | Igniter, Time Blasting Fuse with Sho | 5 igniters per Marine      |
| MN52    | Detonator, Percussion, NonElectric M | 1 detonators per Marine    |
|         |                                      |                            |

## RANGE/TRAINING AREA:

Facility Code 17830 Light Demolition Range

**EQUIPMENT:** Squad Demolition Kit, PPE.

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Safety vehicle, Ammunition vehicle, Communications (radio).

# MISCELLANEOUS:

# ADMINISTRATIVE INSTRUCTIONS: ORM

# ORDNANCE ADDITIONAL INSTRUCTIONS:

| DODIC | Nomenclature                            | Additional | Instructions |
|-------|-----------------------------------------|------------|--------------|
| M023  | Chg, Demo Block M112 11/4 pound C4      |            |              |
| M028  | Demo Kit, Bangalore Torpedo<br>M1A2     |            |              |
| M030  | Chg, Demo Block TNT 1/4Pound            |            |              |
| M032  | Chg, Demo Block TNT 1Pound              |            |              |
| M039  | Chg, Demo Cratering 40Pound             |            |              |
| M130  | Cap, Blasting Electric M6               |            |              |
| M131  | Cap, Blasting Non-Electric M7           |            |              |
| M420  | Chg, Demo Shaped M2 Series<br>15Pound   |            |              |
| M421  | Chg, Demo Shaped M3 Series 40Pound      |            |              |
| M456  | Cord, Detonating PETN Type I<br>Class E |            |              |
| M591  | Dynamite, Military M1                   |            |              |
| M670  | Fuse, Blasting Time M700                |            |              |
| M757  | Chg, Assembly Demo M183 Comp            |            |              |
| M982  | Chg, Demo Sheet 0.166 Inch<br>Thick     |            |              |
| MM30  | Chg, Flexible 20 Gram PETN MK140 Mod 0  |            |              |
| MM44  | Chg, Demo FLSC 75 Gr/Ft                 |            |              |
| MM45  | Chg, Demo FLSC 125 Gr/Ft                |            |              |
| MM47  | Chg, Demo FLSC 400 Gr/Ft                |            |              |

MM48 Chg, Demo FLSC 600 Gr/Ft

MN08 Igniter, Time Blasting Fuse

with Shock Tube Capability M81

MN52 Detonator, Percussion,

NonElectric MK154 Mod 0

1302-DEMO-1003: Engage targets with expedient demolitions

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 3 months

**GRADES:** 2NDLT, 1STLT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a mission, a designated area, personnel, demolition tools, explosives, improvised materials, and references.

**STANDARD:** To produce the desired effect on the target per the mission requirements in accordance with MCRP 3-17.7L Explosives and Demolitions.

## PERFORMANCE STEPS:

- 1. Review the mission.
- 2. Construct a platter charge.
- 3. Construct an expedient claymore charge.
- 4. Construct a grape shot directional charge.
- 5. Construct an omni (360 degree) charge.
- 6. Construct expedient shaped charge.
- 7. Construct expedient flame charge.
- 8. Construct a purpose built charge (based on mission requirements).
- 9. Engage the target.
- 10. Confirm target reduction.

# REFERENCES:

- 1. GTA 05-10-033 Demolition Card
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. SWO60-AA-MMA-010 Demolition Materials

# SUPPORT REQUIREMENTS:

## ORDNANCE:

| DODIC                                     | Quantity                  |  |
|-------------------------------------------|---------------------------|--|
| M023 Chg, Demo Block M112 11/4 pound C4   | 10 charges per Team       |  |
| M032 Chg, Demo Block TNT 1Pound           | 10 charges per Team       |  |
| M130 Cap, Blasting Electric M6            | 14 blasting caps per Team |  |
| M131 Cap, Blasting Non-Electric M7        | 14 blasting caps per Team |  |
| M456 Cord, Detonating PETN Type I Class E | 500 FT per Team           |  |

| M670 Fuse, Blasting Time M700             | 50 FT per Team           |
|-------------------------------------------|--------------------------|
| M757 Chg, Assembly Demo M183 Comp C4      | 1 charges per Team       |
| ML03 Firing Device, Demo MultiPurpose M14 | 2 detonators per Team    |
| ML47 Cap, Blasting Non-Electric M11 with  | 3 blasting caps per Team |
| MN08 Igniter, Time Blasting Fuse with Sho | 10 igniters per Team     |
| MN52 Detonator, Percussion, NonElectric M | 5 detonators per Team    |
| MN88 Cap, Blasting, Non-Electric, M21 w/  | 3 blasting caps per Team |

# RANGE/TRAINING AREA:

Facility Code 17830 Light Demolition Range

**EQUIPMENT:** Squad Demolition Kit, PPE.

MATERIAL: Ammonium Nitrate (33% Nitrogen), JP-8 fuel.

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Safety vehicle, Ammunition vehicle,

Communications (radio).

# MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: ORM

# ORDNANCE ADDITIONAL INSTRUCTIONS:

| DODIC | Nomenclature                                        | Additional | Instructions |
|-------|-----------------------------------------------------|------------|--------------|
| M023  | Chg, Demo Block M112 11/4 pound C4                  |            |              |
| M032  | Chg, Demo Block TNT 1Pound                          |            |              |
| M130  | Cap, Blasting Electric M6                           |            |              |
| M131  | Cap, Blasting Non-Electric M7                       |            |              |
| M456  | Cord, Detonating PETN Type I<br>Class E             |            |              |
| M670  | Fuse, Blasting Time M700                            |            |              |
| M757  | Chg, Assembly Demo M183 Comp                        |            |              |
| ML03  | Firing Device, Demo<br>MultiPurpose M142            |            |              |
| ML47  | Cap, Blasting Non-Electric M11 with 30ft Shock Tube |            |              |

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MN08 Igniter, Time Blasting Fuse

with Shock Tube Capability M81

MN52 Detonator, Percussion,

NonElectric MK154 Mod 0

MN88 Cap, Blasting, Non-Electric,

M21 w/ 500 ft. Minitube

1302-DEMO-1004: Plan destruction of Captured Enemy Ammunition (CEA)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**GRADES:** 2NDLT, 1STLT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Without Explosive Ordnance Disposal (EOD) support readily available, given a tactical scenario, commander's intent, map, explosives, captured enemy ammunition (CEA), and references.

**STANDARD:** To successfully destroy the CEA in accordance with the commander's intent, mission requirements and MCRP 3-17.2D Explosive Hazard Operations.

### PERFORMANCE STEPS:

- 1. Positively identify captured enemy ammunition (CEA).
- 2. Calculate minimum standoff distance to detonate CEA.
- 3. Coordinate with higher headquarters.
- 4. Destroy CEA.
- 5. Confirm target destruction.
- 6. Report results to higher headquarters.

## REFERENCES:

- 1. CHB Country Handbooks
- 2. GTA 05-10-033 Demolition Card
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCWP 3-17 Engineering Operations
- 6. ORD ORDATA II (Software)

1302-EOPS-1001: Design concrete mix

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: 2NDLT, 1STLT, CAPT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided construction drawings, blueprints, specifications, writing materials, a calculator, and the reference.

<u>STANDARD</u>: To meet strength specifications described in the concrete structure design and the construction standards in accordance with MCRP 3-17.7D Concrete and Masonry.

### PERFORMANCE STEPS:

- 1. Determine the type of cement to be used.
- 2. Identify water and aggregate for suitability.
- 3. Determine desired slump.
- 4. Determine percentage of air entrainment, as required.
- 5. Determine amount of water.
- 6. Determine a water/cement ratio.
- 7. Determine amount of cement.
- 8. Determine loose volume of gravel.
- 9. Convert weights to absolute volumes.
- 10. Determine weight of sand.
- 11. Determine loose volume of sand.
- 12. List final proportions for a one cubic yard batch.
- 13. Perform field moisture test on the aggregates.
- 14. Adjust mix design to account for aggregate moisture.

### **REFERENCES:**

1. MCRP 3-17.7D Concrete and Masonry

# **SUPPORT REQUIREMENTS:**

## RANGE/TRAINING AREA:

Facility Code 17413 Field Training Area

EQUIPMENT: Concrete and Masonry kit, Concrete Mixer, Pioneer kit.

MATERIAL: Portland cement, fine and coarse aggregates.

OTHER SUPPORT REQUIREMENTS: Fuel requirement.

1302-EOPS-1002: Design concrete structures

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given construction standards, commander's intent, concept of operations, task organized personnel and equipment, and references.

**STANDARD:** To specify type of materials to be used, proper spacing of all components, and quantity and type of material required for finished structures capable of supporting all loads considered in accordance with the specifications and MCRP 3-17.7D Concrete and Masonry.

## PERFORMANCE STEPS:

- 1. Review the specifications.
- 2. Design a concrete footing.
- 3. Design a concrete wall.
- 4. Design a reinforced concrete structure.
- 5. Design a concrete block structure.
- 6. Prepare construction drawing.
- 7. Generate a Bill of Materials for each type of design.
- 8. Obtain design approval (if required).

#### REFERENCES:

- 1. MCRP 3-17.7D Concrete and Masonry
- 2. MCRP 3-17A Engineering Field Data
- 3. NAVPERS 0-486-20242-9 Basic Construction Techniques for Houses and Small Buildings

# SUPPORT REQUIREMENTS:

MATERIAL: Blueprints/drawings/specifications, calculation worksheets,
calculator

1302-EOPS-1003: Design concrete forms

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: 2NDLT, 1STLT, CAPT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Given construction standards and speicifications, concrete structure design, commander's intent, concept of operations, task organized personnel and equipment, and references.

**STANDARD:** To support all dead loads and live loads and meet standards in accordance with MCRP 3-17.7D Concrete and Masonry.

#### PERFORMANCE STEPS:

- 1. Analyze the concrete structure design to determine the type of form.
- 2. Determine bill of materials.
- 3. Determine the proper spacing for all components of the form.
- 4. Illustrate final design.

### REFERENCES:

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7D Concrete and Masonry
- 3. MCRP 3-17.7M Construction Estimating
- 4. NAVPERS 0-486-20242-9 Basic Construction Techniques for Houses and Small Buildings

### SUPPORT REQUIREMENTS:

MATERIAL: Blue Prints/drawings/specifications, calculation worksheet,
calculator

1302-EOPS-1004: Plan airfield damage repair (ADR Operations)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**GRADES:** 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical situation, an operations order, an airfield/landing zone requiring repair, and references.

**STANDARD:** To ensure the airfield is operationally capable in compliance with the concept of operations in accordance with MCRP 3-17.7B Design of Theater of Operations - Airfields and Helipads.

### PERFORMANCE STEPS:

- 1. Provide recommendations to the Survival Recovery Staff for the task organization of personnel and equipment.
- 2. Determine the appropriate Foreign Object Debris (FOD) cover requirements.
- 3. Calculate the material requirements for crater repair.
- 4. Calculate the material requirements for spall repair.
- 5. Identify appropriate dispersal areas for equipment, materials, and personnel in the event of follow-on attacks.
- 6. Submit appropriate engineer reports.
- 7. Coordinate with supported commander, as required.
- 8. Coordinate logistical support, as required.
- 9. Incorporate safety measures.
- 10. Receive reports from damage assessment teams and damage assessment response teams.
- 11. Repair critical facilities.
- 12. Establish a sustainable facility/ site maintenance and repair plan.

#### **REFERENCES:**

- 1. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 2. MCRP 3-17A Engineering Field Data
- 3. NAVAIR 00-80T-115 Expeditionary Airfield NATOPS Manual
- 4. NAVAIR 51-60A-1(\_) AM2 Airfield Mat and Accessories
- 5. UFC 3-270-07 Airfield Damage Repair

# **SUPPORT REQUIREMENTS:**

# RANGE/TRAINING AREA:

Facility Code 17918 Road/Airfield Construction Training Site

**EQUIPMENT:** Airfield Damage Repair (ADR) kit, 260 CFM, engineer equipment (420 backhoe, multi-terrain loader).

MATERIAL: Fine/coarse aggregate, sand grid, pavemend.

1302-EOPS-1005: Develop mobile electric power distribution/redistribution plan

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical situation, a map, an operations order, specific number of personnel, equipment, and facilities, and references.

**STANDARD:** To meet or exceed requirements outlined in the concept of operations in accordance with MCRP 3-17.7K Theater of Operations Electrical Systems.

## PERFORMANCE STEPS:

- 1. Conduct mission analysis.
- 2. Integrate utilities SME(s) into planning process.
- 3. Conduct site reconnaissance.
- 4. Identify existing electrical power sources.
- 5. Determine electrical power requirements based on personnel, equipment, and facilities.
- 6. Determine priorities for electric power.
- 7. Determine task organization of personnel and equipment.
- 8. Develop a distribution diagram.

# REFERENCES:

- 1. MCRP 3-17.7K Theater of Operations Electrical Systems
- 2. MCRP 3-17A Engineering Field Data
- 3. MCRP 3-17B Engineer Forms and Reports
- 4. MCWP 3-17 Engineering Operations

# **SUPPORT REQUIREMENTS:**

<u>UNITS/PERSONNEL</u>: Utility Officer (1120) or Utilities Chief (1169) will assist.

<u>1302-EOPS-1006</u>: Develop field water distribution system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

 $\underline{\text{CONDITION}}$ : Given a tactical situation, a map, an operations order, specific number of personnel, equipment, and facilities, and references.

<u>STANDARD</u>: To meet or exceed requirements outlined in the concept of operations and in accordance with MCRP 4-11.6A Water Supply in Theaters of Operations.

## PERFORMANCE STEPS:

- 1. Conduct mission analysis.
- 2. Integrate utilities SME(s) into planning process.
- 3. Conduct site reconnaissance.
- 4. Identify existing water sources through water point reconnaissance.
- 5. Determine water consumption (i.e., based on numbers of personnel, equipment, facilities, and climate conditions.
- 6. Develop plan for production, purification, storage, and distribution of water.
- 7. Plan drainage system to prevent contamination of water source from storm runoff.
- 8. Plan construction or improvement main supply routes (MSR) from water point and/or well sites.
- 9. Determine task organization of equipment and personnel.
- 10. Develop a distribution diagram.
- 11. Coordinate with supported commander, as required.
- 12. Coordinate logistical support, as required.

### REFERENCES:

- 1. FM 10-52 Water Supply in Theaters of Operation
- 2. MCWP 4-11.5 SeaBee Operations in the MAGTF
- 3. MCWP 4-11.6 Bulk Liquid Operations

### SUPPORT REQUIREMENTS:

<u>UNITS/PERSONNEL</u>: Utility Officer (1120) or Utilities Chief (1169) will assist

1302-EOPS-1007: Arrange external support for engineer projects/operations

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

GRADES: 2NDLT, 1STLT, CAPT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided an operations order.

**STANDARD:** To provide all required support for a project or operation per the concept of operations and the commander's intent.

## PERFORMANCE STEPS:

- 1. Review the operations order.
- 2. Identify tasks/missions beyond organic capabilities.
- 3. Determine sources of support.
- 4. Coordinate with supporting elements to provide required support.

## **REFERENCES:**

- 1. JP 3-34 Joint Engineer Operations
- 2. MCWP 3-17 Engineering Operations
- 3. MCWP 3-21.1 Aviation Ground Support
- 4. MCWP 3-40.1 MAGTF Command and Control
- 5. MCWP 4-1 Logistics Operations
- 6. MCWP 4-11.5 SeaBee Operations in the MAGTF

1302-EOPS-1008: Conduct range operations

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

GRADES: 2NDLT, 1STLT, CAPT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given the requirement to conduct live fire training, approved range, valid RSO card, Class V, target material, personal protective equipment (PPE), and references.

**STANDARD:** To complete required training without injury to personnel and equipment and in accordance with AR 385-63/DA PAM 385-63/MCO 3570.1B Range Safety.

### PERFORMANCE STEPS:

- 1. Plan for training.
- 2. Conduct site reconnaissance, if required.
- 3. Build target folder(s), if required.
- 4. Submit logistical support requirements.
- 5. Calculate Class V requirements.
- 6. Review SDZs/range regulations, if required.
- 7. Conduct training.
- 8. Submit required reports.
- 9. Conduct accountability of personnel, weapons, and equipment.
- 10. Repair/restore range, as required.
- 11. Direct lineout.

### **REFERENCES:**

- 1. AR 385-63/ DA PAM 385-63 / MCO 3570.1B Range Safety
- 2. AR 385-64 / DA PAM 385-64 Army Explosives Safety
- 3. MCO 3500.27\_ Operational Risk Management (ORM)
- 4. MCRP 3-17.7L Explosives and Demolitions

## SUPPORT REQUIREMENTS:

## RANGE/TRAINING AREA:

Facility Code 17502 Non-Standard Small Arms Range Facility Code 17581 Machine Gun Field Fire Range

Facility Code 17830 Light Demolition Range

**EQUIPMENT:** M4, M16A4, M9, M249, M240G, M2, MK19, MK153, Squad demolitions kit, Shotqun, PPE.

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<u>UNITS/PERSONNEL</u>: Range OIC, Range Safety Officer, Corpsman w/medical supplies, Ammo Tech, Armorer.

OTHER SUPPORT REQUIREMENTS: SAfety vehicle, Ammunition vehicle, Communications (radio).

### **MISCELLANEOUS:**

**SPECIAL PERSONNEL CERTS:** Approved RSO/OIC card, Special permits (if applicable)

1302-EOPS-1009: Establish project/operation schedules

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

GRADES: 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided a mission, construction drawings/blueprints, specifications, a calculator, writing materials, activity estimate sheets, and the reference.

**STANDARD:** To detail all personnel, equipment, and materials necessary to accomplish the mission while establishing a defined duration for each subtask and the overall project/operation and graphically depict the schedule in accordance with MCRP 3-17.7F Project Management.

# PERFORMANCE STEPS:

- 1. Review the mission.
- 2. Determine activities/tasks necessary to complete the project.
- 3. Arrange activities/tasks in logical sequence.
- 4. Complete activity estimate sheets.
- 5. Identify critical tasks.
- 6. Graphically depict schedule.
- 7. Update schedule throughout duration of project/operation.

#### REFERENCES:

- 1. MCRP 3-17.7F Construction Project Management
- 2. MCRP 3-17.7I Earthmoving Operations
- 3. MCRP 3-17.7M Construction Estimating
- 4. NAVFAC P-405 Seabee Planner's and Estimator's Handbook

1302-FUEL-1001: Plan fuel operations

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

GRADES: 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Given a tactical situation, a map, operations order, task organization of equipment and personnel, and references.

**STANDARD:** To meet requirements as outlined in the concept of operations in accordance with MCWP 4-11.6 Petroleum and Water Logistics Operation.

### PERFORMANCE STEPS:

- 1. Conduct mission analysis.
- 2. Integrate Bulk Fuel SME(s) into planning process.
- 3. Plan reconnaissance of selected sites.
- 4. Determine the fuel shortage requirements.
- 5. Determine distribution requirements.
- 6. Identify existing fuel sources and host nation support availability.
- 7. Coordinate with appropriate services with the delivery of fuel.
- 8. Select sites for fuel farms.
- 9. Plan horizontal construction operations.
- 10. Determine task organization of equipment and personnel.
- 11. Illustrate the layout of the fuel farm.
- 12. Illustrate fuel distribution plan.
- 13. Develop record(s) for fuel distribution.
- 14. Plan/coordinate firefighting support.
- 15. Develop spill contingency plan.

#### REFERENCES:

- 1. MCWP 3-17 Engineering Operations
- 2. MCWP 4-1 Logistics Operations
- 3. MCWP 4-11.6 Petroleum and Water Logistics Operations

## SUPPORT REQUIREMENTS:

<u>UNITS/PERSONNEL</u>: Bulk Fuel Officer (1390) or Bulk Fuel Specialist (1391) and Engineer Equipment Officer (1310) or Engineer Equipment Chief (1349) will assist.

1302-HORZ-1001: Plan a horizontal construction project

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

GRADES: 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a horizontal construction mission, a map, construction standards, operations order, and references.

<u>STANDARD</u>: To meet requirements as outlined in the concept of operations and in accordance with MCRP 3-17.7(A&B) Design of Theater of Operations-Roads, Airfields and Helipads.

### PERFORMANCE STEPS:

1. Conduct mission analysis.

- 2. Conduct site reconnaissance.
- 3. Perform hasty field identification of soils.
- 4. Determine drainage requirements.
- 5. Select appropriate configuration.
- 6. Determine matting requirements, if applicable.
- 7. Calculate earthwork production estimations.
- 8. Determine logistical requirements.
- 9. Employ construction management tool.
- 10. Establish quality control plan.
- 11. Develop maintenance/repair plan.
- 12. Issue the order.
- 13. Coordinate as required with supported commander.
- 14. Coordinate logistical support, as required.
- 15. Coordinate security, as required.

### **REFERENCES:**

- 1. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 2. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 3. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 4. MCRP 3-17.7F Construction Project Management
- 5. MCRP 3-17.7G Military Soils Engineering
- 6. MCRP 3-17.7H Materials Testing
- 7. MCRP 3-17.7I Earthmoving Operations
- 8. MCRP 3-17.7M Construction Estimating
- 9. MCWP 3-17 Engineering Operations
- 10. MCWP 3-17.7 General Engineering
- 11. MCWP 3-17.8 Combined Arms Mobility Operations
- 12. MCWP 3-21.1 Aviation Ground Support
- 13. MCWP 4-11.5 SeaBee Operations in the MAGTF

## SUPPORT REQUIREMENTS:

<u>UNITS/PERSONNEL</u>: Engineer Equipment Officer (1310) or Engineer Equipment Chief (1369) will assist.

1302-HORZ-1002: Plan construction of drainage systems

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: 2NDLT, 1STLT, CAPT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a mission, commander's intent, tactical situation, a map, task organized equipment and personnel, design specifications, construction materials and references.

**STANDARD:** To intercept, collect, and remove surface water flowing toward a designated area from adjacent areas in accordance with MCRP 3-17.7A Design of Theater of Operations - Road Design.

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## PERFORMANCE STEPS:

- 1. Analyze the mission.
- 2. Review drainage specifications.
- 3. Review the terrain.
- 4. Calculate area of waterway/peak run off.
- 5. Determine type of drainage structure(s) required.
- 6. Calculate size/amount of culvert required (if applicable).
- 7. Design a drainage ditch.
- 8. Determine logistical requirements needed.
- 9. Complete a bill of materials (if required).
- 10. Submit required reports.

#### **REFERENCES:**

- 1. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 2. MCRP 3-17.7F Construction Project Management
- 3. MCRP 3-17A Engineering Field Data

1302-HORZ-1003: Conduct a field soil analysis

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**GRADES:** 2NDLT, 1STLT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an unidentified soil sample, an SL-3 complete soil test kit and references.

**STANDARD:** To obtain a two-letter USCS classification, CBR, and moisture content in accordance with MCRP 3-17.7G Military Soils Engineering.

## PERFORMANCE STEPS:

- 1. Obtain a soil sample.
- 2. Perform a visual examination of the soil.
- 3. Separate gravel.
- 4. Conduct field identification tests on the -40 material.
- 5. Determine the USCS classification.
- 6. Determine the CBR.
- 7. Determine the moisture content.
- 8. Record and report results.

### REFERENCES:

- 1. MCRP 3-17.7G Military Soils Engineering
- 2. MCRP 3-17.7H Materials Testing
- 3. MCRP 3-17A Engineering Field Data

1302-MANT-1001: Manage a Consolidated Memorandum Receipt (CMR)

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EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 3 months

GRADES: 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given itemized equipment.

**STANDARD:** To maintain accountability of itemized equipment and associated documentation in accordance with MCO 4400.150\_, Consumer-Level Supply Policy Manual.

#### PERFORMANCE STEPS:

- 1. Receive assignment letter from Commanding Officer as Responsible Officer for CMR account.
- 2. Receive CMR from Supply Officer.
- 3. Inventory gear/materiel annotated on the CMR.
- 4. Compile discrepancies and submit a request for investigation/discrepancy letter, if applicable.
- 5. Subcustody gear/material to responsible individual(s), if applicable.
- 6. Conduct quarterly reconciliation with Supply Officer; Initial, sign and date CMR.
- 7. Provide delegation of authority to receive/turn-in gear to Supply.
- 8. Maintain documentation of reconciliation and sub-custody for personal reference.
- 9. Maintain records of receipt and disposal.

#### REFERENCES:

- 1. Current GCSS-MC Procedural Notices (GPN)
- 2. MCO 4400.150\_ Consumer-Level Supply Policy Manual
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures

1302-MANT-1002: Manage an organizational maintenance program

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**GRADES:** 2NDLT, 1STLT, CAPT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an engineer task organization of engineer equipment and personnel, technical manuals, appropriate maintenance reports and references.

<u>STANDARD</u>: To identify discrepancies and processing errors within the maintenance cycle; account for gear/materiel on CMR; track deadlined or readiness reportable.

## PERFORMANCE STEPS:

- 1. Ensure proper manuals and forms are available.
- 2. Ensure required maintenance is performed and documented.
- 3. Review reports for discrepancies within the maintenance and supply cycle.
- 4. Review reports transaction for processing errors.

- 5. Inspect reports for compliance with references.
- 6. Review supply parts requisitions to identify any discrepancies.
- 7. Conduct reconciliation with MMO and supply.

## REFERENCES:

- 1. Current GCSS-MC Procedural Notices (GPN)
- 2. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 3. MCO 4400.150\_ DON'T DELETE-OTHER SCHOOLS USE THIS-BESIDES, read the coverthe other .150 is wrong Consumer-Level Supply Policy
- 4. MCRP 3-0B How to Conduct Training
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

## OTHER SUPPORT REQUIREMENTS:

Will be required to complete the following GCSS-MC modules:

Module CS 101 - Getting Started in GCSS-MC

Module CS 102 - iSupport Requestors

Module CS 103 - Requestors (Field Service Request)

Module RPTS 101 - Reports Users (Discoverer & Standard)

Module RPTS 102 - Daily Business Intelligence

Optional:

Module AO 101 - Accountable Officers

Module RO 101 - Responsible Officers

To enroll in GCSS-MC online modules us the following link

(https://gcssmc.csd.disa.mil)

1302-MOBL-1001: Plan a military road

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**GRADES:** 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Given a tactical situation, a map, an operations order, task organization of equipment and personnel, and references.

**STANDARD:** To meet or exceed traffic support requirements in the concept of operations.

## PERFORMANCE STEPS:

- 1. Conduct reconnaissance of proposed road.
- 2. Determine number and type of vehicles that will use the road.
- 3. Recommend road design and requirements to commander.
- 4. Determine logistics requirements to support construction.
- 5. Prepare operations order to construct pioneer road.
- 6. Coordinate with supported unit.
- 7. Coordinate logistical support, as required.

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- 8. Coordinate security, as required.
- 9. Ensure safety measures are observed.

### **REFERENCES:**

- 1. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 2. MCRP 3-17.7H Materials Testing
- 3. MCRP 3-17.7I Earthmoving Operations
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations

1302-MOBL-1002: Plan dismounted route sweep operations

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

GRADES: 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical situation, a route to be swept, map, task organized personnel and equipment, an operations order, and references.

<u>STANDARD</u>: To ensure sufficient mobility is planned to support the concept of operations and the commander's intent in accordance with MCRP 3-17.2D Explosive Hazards Operations.

### PERFORMANCE STEPS:

- 1. Conduct mission analysis.
- 2. Determine the most likely areas to be mined, booby-trapped or have improvised explosive devices.
- 3. Identify common signs and markings that may be associated with the location of mines, IEDs, and booby traps.
- 4. Determine type and extent of mines/obstacles/IEDs.
- 5. Determine task organization of personnel and equipment.
- 6. Determine material requirements.
- 7. Determine Explosive Ordnance Disposal (EOD) support.
- 8. Develop route sweep order.
- 9. Plan mission rehearsals.

## REFERENCES:

- 1. MCRP 3-17.2D Explosive Hazard Operations
- 2. MCRP 3-17A Engineering Field Data
- 3. MCRP 3-17B Engineer Forms and Reports
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance

1302-MOBL-1003: Plan Route and Area Clearance (RAAC) operations

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

GRADES: 2NDLT, 1STLT, CAPT

## INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical situation, a route/area to be cleared, task organized personnel and clearance equipment, a map, an operation order, and references.

**STANDARD:** To assure mobility in support of the concept of operations in accordance with MCRP 3-17.2D Explosive Hazards Operations.

#### PERFORMANCE STEPS:

- 1. Conduct mission analysis.
- 2. Develope a RAAC operation order.
- 3. Ensure employment concept is consistent with the tactical situation and scheme of maneuver.
- 4. Plan rehearsals and Immediate Action (IA) drills.
- 5. Ensure all obstacles are detected, identified and marked.
- 6. Plan for the reduction or bypass of obstacle.
- 7. Issue order.

# REFERENCES:

- $\overline{1}$ . GTA 05-10-033 Demolition Card
- 2. GTA 5-2-5 Engineer Reconnaissance
- 3. MCO 3500.27\_ Operational Risk Management (ORM)
- 4. MCRP 3-17.2D Explosive Hazard Operations
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineering Field Data
- 7. MCRP 3-17B Engineer Forms and Reports
- 8. MCRP 5-12A Operational Terms and Graphics
- 9. MCWP 3-17 Engineer Operations
- 10. MCWP 3-17.2 MAGTF Explosive Ordnance Disposal
- 11. MCWP 3-17.3 MAGTF Breaching Operations
- 12. MCWP 3-17.4 Engineer Reconnaissance
- 13. MCWP 3-17.8 Combined Arms Mobility Operations
- 14. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

1302-MOBL-1004: Conduct mobility operations in an Improvised Explosive Device (IED) environment

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

 $\overline{\text{CONDITION}}$ : Given a tactical situation, with Explosive Ordnance Disposal (EOD) support unavailable within mission parameters, given relevant combat engineer T/E, appropriate Class V items, and references.

STANDARD: To ensure mobility by reducing 100% of IEDs located with no injuries to personnel or equipment in accordance with MCIP 3-17.01 Combined

Arms IED Defeat Operations.

## PERFORMANCE STEPS:

- 1. Conduct mission analysis.
- 2. Plan immediate actions for mobility operation.
- 3. Conduct immediate actions.
- 4. Conduct breaching actions.
- 5. Submit required reports.

#### REFERENCES:

- 1. GTA 90-01-001 Improvised Explosive Device and Vehicular Borne Improvised Explosive Device Smart Card
- 2. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 3. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 4. MCRP 3-17.2D Explosive Hazard Operations
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17B Engineer Forms and Reports
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.4 Engineer Reconnaissance
- 9. MCWP 3-17.8 Combined Arms Mobility Operations
- 10. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

### SUPPORT REQUIREMENTS:

### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

Facility Code 17413 Field Training Area

Facility Code 17420 Maneuver/Training Area, Heavy Forces

Facility Code 17961 Combat In Cities Facility

MATERIAL: Inert Explosive Hazards.

UNITS/PERSONNEL: Range Safety Officer, Corpsman.

OTHER SUPPORT REQUIREMENTS: Safety vehicle, Communications (radio). MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: 1. This event is a MOS Specific Physical Standard required for the MOS of 1302. See Appendix E for further detail.

1302-MOBL-1005: Plan breaching of a complex obstacle

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical situation, an operations order, a map, task organized personnel and equipment, and references.

STANDARD: To establish a sufficient number of cleared lanes for assured

mobility in accordance with the commander's intent and MCWP  $3-17.3~\mathrm{MAGTF}$  Breaching Operations.

### PERFORMANCE STEPS:

- 1. Conduct mission analysis.
- 2. Identify available bypasses.
- 3. Identify the type(s) of breaching operation required.
- 4. Identify number of lanes required.
- 5. Identify potential breach sites.
- 6. Determine number/type of explosive/nonexplosive breaching assets available.
- 7. Task organize engineer personnel and equipment within the breach force.
- 8. Determine proper sequencing of the breach force based on tactical situation.
- Develop battle drills (individual/unit) to rehearse the breach of a complex obstacle.
- 10. Determine support requirements.
- 11. Plan, prioritize, and recommend fire support requirement.
- 12. Prepare appendix of the operations order.
- 13. Coordinate actions of support force and assault force before, during, and after, planned breaches.
- 14. Coordinate rehearsals with breach, support, and assault forces.

#### **REFERENCES:**

- 1. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 2. MCWP 3-1 Ground Combat Operations
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.3 MAGTF Breaching Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3-17.8 Combined Arms Mobility Operations

1302-MOBL-1006: Conduct assault breaching into buildings

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: 2NDLT, 1STLT, CAPT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a mission, a designated area, personnel, demolitions tools, explosives, improvised materials, and references.

**STANDARD:** To secure passage through the target while limiting the amount of collateral damage and ensuring that the assault force gains access.

## PERFORMANCE STEPS:

- 1. Review the mission and reconnaissance reports.
- 2. Organize the breaching team.
- 3. Identify the location of the target.
- 4. Evaluate the target and surrounding areas.
- 5. Determine breaching method.
- 6. Select and construct appropriate explosives.

- 7. Determine possible effects of detonation on the target and surrounding structures.
- 8. Determine possible effects on the assault team.
- 9. Identify safety precautions required during detonation.
- 10. Compute Net Explosive Weight (NEW).
- 11. Determine standoff distance.
- 12. Brief team members on explosive effects and safe locations.
- 13. Position yourself and your team in a safe location during detonation.
- 14. Suppress enemy fire and set up security.
- 15. Obscure target from enemy observation.
- 16. Emplace the charge.
- 17. Detonate the charge.
- 18. Employ mechanical breaching as required.
- 19. Proof breach site.
- 20. Ensure adequacy of breach.
- 21. Pass assault force through the breach site.

### REFERENCES:

- 1. MCRP 3-17.7L Explosives and Demolitions
- 2. MCRP 3-17A Engineer Field Data
- 3. MCWP 3-17.3 MAGTF Breaching Operations
- 4. MCWP 3-17.4 Engineer Reconnaissance
- 5. MCWP 3-17.8 Combined Arms Mobility Operations
- 6. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 7. NSWC DL TR-3714 Urban Building Characteristics
- 8. NSWC TR 79-224 Characteristics of Urban Terrain
- 9. SWO60-AA-MMA-010 Demolition Materials
- 10. SWO60-AA-MMA-020 DEMOLITION MATERIALS (Vol II)
- 11. TM 1003A/07172A/09081A-13P Operator and Maintenance Manual, Model 500, Mossberg 12-gauge shotgun
- 12. TM 1005A-303-14 SHOTGUN M1200 WINCHESTER
- 13. VOLUME I Guidebook for Assault Entry Techniques, Volume I
- 14. VOLUME II Guidebook for Assault Entry Techniques Volume II

## SUPPORT REQUIREMENTS:

#### **ORDNANCE:**

| DODIC                                      | Quantity                   |
|--------------------------------------------|----------------------------|
| A011 Ctg, 12 Gauge #00 Buckshot M162       | 10 rounds per Marine       |
| A023 Ctg, 12 Gauge 1 Ounce Slug Commercia  | 8 rounds per Marine        |
| AA54- Cartridge, 12 Gauge, Breaching, M103 | 12 rounds per Marine       |
| AX14 Primer, Percussion 12 Gauge W209      | 12 primers per Marine      |
| M023 Chg, Demo Block M112 11/4 pound C4    | 10 charges per Marine      |
| M130 Cap, Blasting Electric M6             | 8 blasting caps per Marine |
| M131 Cap, Blasting Non-Electric M7         | 6 blasting caps per Marine |
| M456 Cord, Detonating PETN Type I Class E  | 200 FT per Marine          |
| M670 Fuse, Blasting Time M700              | 24 FT per Marine           |
| ML03 Firing Device, Demo MultiPurpose M14  | 1 detonators per Team      |
| MN08 Igniter, Time Blasting Fuse with Sho  | 4 igniters per Marine      |
| MN14 Firing Device, Dual Mode MK54         | 2 detonators per Team      |
| MN52 Detonator, Percussion, NonElectric M  | 6 detonators per Marine    |
|                                            |                            |

## RANGE/TRAINING AREA:

Facility Code 17961 Combat In Cities Facility

**EQUIPMENT:** Assault Breacher's kit, Squad demolitions kit, Shotgun, PPE.

<u>MATERIAL</u>: Double sided tape, waterproof tape, duct tape, grease, prop stick, appropriate medium, B-mod target, backing material, 550 parachute cord, IV bags, electrical tape, rigger's tape, rubber conveyor belt, treble hook.

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman.

OTHER SUPPORT REQUIREMENTS: Safety vehicle, Ammunition vehicle, Communications (radio).

## MISCELLANEOUS:

### ORDNANCE ADDITIONAL INSTRUCTIONS:

| DODIC | Nomenclature                                               | Additional | Instructions |
|-------|------------------------------------------------------------|------------|--------------|
| A011  | Ctg, 12 Gauge #00 Buckshot<br>M162                         |            |              |
| A023  | Ctg, 12 Gauge 1 Ounce Slug<br>Commercial                   |            |              |
| AA54- | Cartridge, 12 Gauge,<br>Breaching, M1030                   |            |              |
| AX14  | Primer, Percussion 12 Gauge W209                           |            |              |
| M023  | Chg, Demo Block M112 11/4 pound C4                         |            |              |
| M130  | Cap, Blasting Electric M6                                  |            |              |
| M131  | Cap, Blasting Non-Electric M7                              |            |              |
| M456  | Cord, Detonating PETN Type I<br>Class E                    |            |              |
| M670  | Fuse, Blasting Time M700                                   |            |              |
| ML03  | Firing Device, Demo<br>MultiPurpose M142                   |            |              |
| MN08  | Igniter, Time Blasting Fuse with Shock Tube Capability M81 |            |              |
| MN14  | Firing Device, Dual Mode MK54                              |            |              |

MN52 Detonator, Percussion,
NonElectric MK154 Mod 0

#### MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: 1. This event is a MOS Specific Physical Standard required for the MOS of 1302. See Appendix E for further detail.

1302-MOBL-1007: Plan the reduction of strongpoints and structures

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided a mission, a designated area, demolitions tools, explosives, improvised materials, heavy equipment, and references.

<u>STANDARD</u>: So that the strongpoint or structure is reduced with minimal/no damage to friendly equipment or personnel in accordance with MCWP 3-17.3 MAGTF Breaching Operations.

### PERFORMANCE STEPS:

- 1. Review the mission and reconnaissance reports.
- 2. Organize demolition team.
- 3. Identify location of target.
- 4. Evaluate the target and surrounding areas.
- 5. Select and/or construct appropriate means of reduction.
- 6. Determine possible effects of reduction on target and surrounding structures.
- 7. Determine possible effects on the assault team and friendly forces.
- 8. Identify safety precautions required during reduction.
- 9. Brief team members on safe locations.
- 10. Position yourself and your team in a safe location during reduction.
- 11. Suppress enemy fire and setup site security.
- 12. Obscure target from enemy observation.
- 13. Mark areas for safe transit/ occupation by friendly forces.
- 14. Reduce strongpoint/structure.
- 15. Coordinate transfer of control of reduction site to follow-on/ designated force.
- 16. Submit required reports.

- 1. MCRP 3-17.7I Earthmoving Operations
- 2. MCRP 3-17.7L Explosives and Demolitions
- 3. MCRP 3-17A Engineer Field Data
- 4. MCWP 3-17.3 MAGTF Breaching Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3-17.8 Combined Arms Mobility Operations
- 7. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

1302-MOBL-1008: Operate a robot

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: 2NDLT, 1STLT, CAPT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an operating environment, suspected explosive hazards, combat engineer equipment, personal protective equipment and references.

**STANDARD:** To locate, confirm and mark the explosive hazard(s) per the operator's manual.

### PERFORMANCE STEPS:

- 1. Visually assess the terrain.
- 2. Prepare the robot for operation.
- 3. Operate the robot and components.
- 4. Conduct robotic reconnaissance.
- 5. Retrieve the robot.
- 6. Conduct post-op preventive maintenance checks and services (PMCS).

#### **REFERENCES:**

- 1. Appropriate Manufacturer's Assembly Manual/Instructions
- 2. Appropriate Technical Manuals
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.8 Combined Arms Mobility Operations
- 7. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

## SUPPORT REQUIREMENTS:

## RANGE/TRAINING AREA:

Facility Code 17413 Field Training Area Facility Code 17961 Combat In Cities Facility

**EQUIPMENT:** PacBot 510 w/FASTAC kit, SUGV 310, SUGV 320.

UNITS/PERSONNEL: Range OIC, Range Safety Officer.

OTHER SUPPORT REQUIREMENTS: Obstacles to represent urban and rural conditions. Inert explosive hazards and mock-ups.

1302-MOBL-1009: Identify Explosive Hazards (EH)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 3 months

GRADES: 2NDLT, 1STLT, CAPT

## INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Given an operating environment, suspected explosive hazards, combat engineer equipment, field protective equipment and country handbooks/ORDATA II.

**STANDARD:** To identify category, country of origin, type of function, safeties and conditions.

### PERFORMANCE STEPS:

- 1. Visually identify explosive hazard markers and indicators.
- 2. Identify components of Improvised Explosive Devices (IEDs).
- 3. Identify booby traps.
- 4. Identify thrown munitions.
- 5. Identify projected munitions.
- 6. Identify dropped munitions.
- 7. Identify placed munitions.
- 8. Record and report results.

#### **REFERENCES:**

- 1. Appropriate Reference Materials
- 2. CHB Country Handbooks
- 3. FM 3-34.210 Explosive Hazard Operations
- 4. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 5. MCRP 3-17.2D Explosive Hazard Operations
- 6. MCRP 3-17A Engineering Field Data
- 7. ORD ORDATA II (Software)
- 8. SWO 60-AA-MMA-010 Demolition Materials

1302-MOBL-1010: Reduce Explosive Hazards (EH)

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

GRADES: 2NDLT, 1STLT, CAPT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an operating environment, a positively identified explosive hazard, combat engineer equipment, Class V, personal protective equipment, commander's decision and references.

**STANDARD:** By calculating, placing and detonating an explosive charge that will result in the reduction of the explosive hazard and allow for assured mobility.

## PERFORMANCE STEPS:

- 1. Evaluate go/no go criteria per the explosive hazard decision matrix.
- 2. Employ protective measures.
- 3. Build a charge appropriate to reduce the explosive hazard.
- 4. Remotely place the charge.
- 5. Detonate the charge.
- 6. Conduct post-blast analysis.

## 7. Report results.

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineering Field Data
- 6. MCRP 5-12.1C Risk Management Cancelled w/o replacement
- 7. MCWP 3-1 Ground Combat Operations
- 8. MCWP 3-17 Engineer Operations
- 9. MCWP 3-17.2 MAGTF Explosive Ordnance Disposal
- 10. MCWP 3-17.3 MAGTF Breaching Operations
- 11. MCWP 3-17.4 Engineer Reconnaissance
- 12. MCWP 3-17.8 Combined Arms Mobility Operations
- 13. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

## SUPPORT REQUIREMENTS:

### ORDNANCE:

| DODIC                                     | Quantity                 |
|-------------------------------------------|--------------------------|
| M023 Chg, Demo Block M112 11/4 pound C4   | 2 charges per Marine     |
| M131 Cap, Blasting Non-Electric M7        | 4 blasting caps per Team |
| M456 Cord, Detonating PETN Type I Class E | 10 FT per Marine         |
| M670 Fuse, Blasting Time M700             | 500 FT per Team          |
| M757 Chg, Assembly Demo M183 Comp C4      | 2 charges per Team       |
| MN08 Igniter, Time Blasting Fuse with Sho | 2 igniters per Team      |
| MN88 Cap, Blasting, Non-Electric, M21 w/  | 1 detonators per Team    |
| MN90 Cap, Blasting, Non-Electric, M23 w/  | 1 detonators per Marine  |

#### RANGE/TRAINING AREA:

Facility Code 17830 Light Demolition Range

**EQUIPMENT:** Squad demolitions kit, robot, Pioneer kit, PPE.

MATERIAL: Electrical tape, duct tape, prop stick.

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman.

OTHER SUPPORT REQUIREMENTS: Safety vehicle, Ammunition vehicle,

Communications (radio).

#### MISCELLANEOUS:

## ORDNANCE ADDITIONAL INSTRUCTIONS:

| DODIC | Nomenclature                       | Additional | Instructions |
|-------|------------------------------------|------------|--------------|
| M023  | Chg, Demo Block M112 11/4 pound C4 |            |              |
| M131  | Cap, Blasting Non-Electric M7      |            |              |

| M456 | Cord, Detonating PETN Type I<br>Class E                    |
|------|------------------------------------------------------------|
| M670 | Fuse, Blasting Time M700                                   |
| M757 | Chg, Assembly Demo M183 Comp C4                            |
| MN08 | Igniter, Time Blasting Fuse with Shock Tube Capability M81 |
| MN88 | Cap, Blasting, Non-Electric, M21 w/ 500 ft. Minitube       |
| MN90 | Cap, Blasting, Non-Electric, M23 w/ 1000 ft. Minitube      |

1302-MOBL-1011: Design a ribbon bridge/raft

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical situation, a map, an operations order, task organization of equipment and personnel, and references.

<u>STANDARD</u>: To ensure design standards are met to support the concept of operations in accordance with TM 11518A-OR Improved Ribbon Bridge (IRB) Operators Manual.

### PERFORMANCE STEPS:

- 1. Conduct mission analysis.
- 2. Conduct reconnaissance of ribbon bridge/raft site.
- 3. Determine site condition and layout.
- 4. Determine logistical support requirements.
- 5. Determine engineer estimate of supportability.
- 6. Determine configuration of the ribbon bridge/raft.
- 7. Review the ribbon bridge/raft design.
- 8. Coordinate suppression of enemy force overwatching the crossing area.
- 9. Establish safety plan.
- 10. Coordinate obscuration of the crossing site.

- 1. MCRP 3-17A Engineer Field Data
- 2. MCWP 3-17 Engineering Operations
- 3. MCWP 3-17.8 Combined Arms Mobility Operations
- 4. TM 10020C-OI Bridge Erection Boat (MKIII)Operator's Manual
- 5. TM 11518A-OR Improved Ribbon Bridge (IRB) Operators Manual

1302-MOBL-1012: Design a Medium Girder Bridge (MGB)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical situation, a map, an operations order, military load classification requirements, and references.

<u>STANDARD</u>: To meet or exceed the military load classification required supporting the concept of operation's traffic in accordance with TM 5-5420-212-12 Medium Girder Bridge.

#### PERFORMANCE STEPS:

- 1. Conduct mission analysis.
- 2. Conduct a reconnaissance of the bridge site.
- 3. Determine configuration of Medium Girder Bridge (MGB) to be utilized.
- 4. Determine site condition and layout.
- 5. Develop engineer estimate of supportability.

#### **REFERENCES:**

- 1. MCRP 3-17A Engineering Field Data
- 2. TM 5-5420-212-12 Medium Girder Bridge
- 3. TM 5-5420-212-12-1 Link Reinforcement Set

1302-MOBL-1013: Design a non-standard bridge

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

GRADES: 2NDLT, 1STLT, CAPT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical situation, a map, an operations order, a wet or dry gap, military load requirements, and references.

<u>STANDARD</u>: To meet or exceed the military load classification required to support the concept of operations/traffic in accordance with MCRP 3-17.1B Military Non-Standard Bridging.

#### PERFORMANCE STEPS:

- 1. Conduct mission analysis.
- 2. Conduct site reconnaissance.
- 3. Determine bridge type.
- 4. Determine superstructure type.
- 5. Determine substructure type.
- 6. Determine bill of materials (BOM).

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- 7. Coordinate support requirements.
- 8. Illustrate final design.
- 9. Submit design.

### REFERENCES:

- 1. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 2. MCRP 3-17A Engineering Field Data

1302-MOBL-1014: Classify a bridge

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

**GRADES:** 2NDLT, 1STLT, CAPT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a tactical situation, a map, a bridge, and references.

**STANDARD:** To determine the military load classification with consideration to width and overhead clearance restrictions in accordance with MCRP 3-17.1B Military Non-Standard Bridging.

#### PERFORMANCE STEPS:

- 1. Conduct mission analysis.
- 2. Coordinate support/security requirements with supported units.
- 3. Prepare bridge reconnaissance team. (include all applicable forms and reports).
- 4. Conduct bridge reconnaissance.
- 5. Make appropriate calculations.
- 6. Determine bridge classification/restrictions.
- 7. Submit reports.

### REFERENCES:

- 1. GTA 05-07-013 Rapid Field Classification Booklet
- 2. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 3. MCRP 3-17A Engineering Field Data
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 3-17.4 Engineer Reconnaissance

1302-MOBL-1015: Plan engineer aspects of a gap crossing operation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: 2NDLT, 1STLT, CAPT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical situation, operations order with river crossing annex, and references.

**STANDARD:** To maintain maneuver force mobility in accordance with the concept of operations and MCWP 3-17.8 Combined Arms Mobility Operations.

### PERFORMANCE STEPS:

- 1. Conduct mission analysis.
- 2. Task organize personnel and equipment.
- 3. Coordinate with supported unit commander.
- 4. Issue orders to engineer personnel.
- 5. Establish tactical control measures.
- 6. Coordinate required logistics support.
- 7. Coordinate with supported unit.
- 8. Submit required engineer reports.
- 9. Coordinate with bridge force, support force, and assault force, as required.
- 10. Plan for follow-on actions.

### REFERENCES:

- 1. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 2. MCRP 3-17A Engineering Field Data
- 3. MCRP 3-17B Engineer Forms and Reports
- 4. MCWP 3-1 Ground Combat Operations
- 5. MCWP 3-17.8 Combined Arms Mobility Operations

1302-MOBL-1016: Plan construction of an expeditionary airfield/landing zone

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

GRADES: 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical situation, a map, operations order, airfield configuration (if required), aircraft type and density, and references.

**STANDARD:** To meet requirements of the concept of operations in accordance with MCRP 3-17.7B Design of Theater of Operations-Airfields and Helipads (Volume 2).

#### PERFORMANCE STEPS:

- 1. Conduct mission analysis.
- 2. Conduct airfield/landing zone site reconnaissance.
- 3. Advise commander on site selection.
- 4. Develop construction plan.
- 5. Determine task organization of equipment and personnel.

- 1. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 2. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 3. MCRP 3-17.7I Earthmoving Operations
- 4. NAVAIR 00-80T-115 Expeditionary Airfield NATOPS Manual

1302-PLAN-1001: Participate in the Marine Corps Planning Process (MCPP)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**GRADES:** 2NDLT, 1STLT, CAPT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Given an operating environment, higher headquarters' order, commander's guidance and the reference, while implementing the orders process.

STANDARD: Produce plans and orders products which support the accomplishment of the mission and commander's intent and in accordance with MCWP 5-1 Marine Corps Planning Process.

### PERFORMANCE STEPS:

- 1. Assist in problem framing.
- 2. Assist in the development of courses of action.
- 3. Assist in wargaming of courses of action.
- 4. Assist in comparison and recommendation of courses of action.
- Assist in development of appropriate staff products, operations plans, orders, annexes, and appendices.
- 6. Assist in transition by compiling the components of an operations order for distribution to subordinate units.

## REFERENCES:

- 1. MSTP PAM 5-0.2 Operational Planning Team Guide
- 2. MSTP PAM 5-0.3 MAGTF Planner's Reference Manual

1302-PLAN-1002: Plan a base camp

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

GRADES: 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

 $\underline{\text{CONDITION}}$ : Given a tactical situation, a map, operations order, size of the unit to occupy base camp(s), and references.

 $\underline{\mathtt{STANDARD}}$ : To meet unit requirements outlined in the concept of operations and in accordance with MCRP 3-17.7N Base Camps.

## PERFORMANCE STEPS:

- 1. Conduct mission analysis.
- 2. Conduct a site reconnaissance.
- 3. Determine site requirements.
- 4. Determine camp layout.

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- 5. Select a temporary facility, if available.
- 6. Determine logistical support requirements.
- 7. Determine bill of materials (BOM).
- 8. Determine utility requirements.
- 9. Determine drainage requirements.
- 10. Develop obstacle/barrier plan, as required.
- 11. Establish a survivability plan, as required.
- 12. Determine task organization of personnel and equipment.
- 13. Illustrate final design/design blueprints.
- 14. Coordinate with supported commander, as required.
- 15. Coordinate logistical support, as required.
- 16. Incorporate safety measures to be taken at the construction site(s).
- 17. Coordinate security measures as required.
- 18. Establish a waste disposal plan, as required.
- 19. Establish an ammunition storage/ distribution, transportation plan, as required.
- 20. Establish a bulk liquid storage plan.
- 21. Establish a facility/ site maintenance and repair plan.

### **REFERENCES:**

- 1. GTA 90-01-011 Joint Forward Operations Base (JFOB) Protection Handbook
- 2. GTA 90-01-018 Joint Entry Control Point & Escalation of Force Procedures
- 3. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 4. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 5. MCRP 3-17.7F Construction Project Management
- 6. MCRP 3-17.7I Earthmoving Operations
- 7. MCRP 3-17.7K Theater of Operations Electrical Systems
- 8. MCRP 3-17.7M Construction Estimating
- 9. MCRP 3-17.7N Base Camps
- 10. MCRP 3-17A Engineer Field Data
- 11. MCWP 3-17 Engineering Operations
- 12. MCWP 3-17.4 Engineer Reconnaissance
- 13. MCWP 3-17.5 Combined Arms Obstacle Integration
- 14. MCWP 3-17.6 Survivability Operations
- 15. MCWP 3-17.7 General Engineering
- 16. MCWP 3-43 Command and Control
- 17. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 18. NAVMED P-5010-9 Manual of Naval Preventive Medicine, Chapter 9, Preventive Medicine for Ground Forces

#### SUPPORT REQUIREMENTS:

<u>UNITS/PERSONNEL</u>: Utility Officer (1120) or Utilities Chief (1169), Engineer Equipment Officer (1310) or Engineer Equipment Chief (1369), Bulk Fuel Officer (1390) or Bulk Fuel Chief (1391) will assist.

1302-RECN-1001: Conduct engineer reconnaissance operations

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: 2NDLT, 1STLT, CAPT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical situation, maps, an operations order, and references.

<u>STANDARD</u>: To ensure the completed reconnaissance mission meets requirements of the operations order in accordance with MCWP 3-17.4 Engineer Reconnaissance.

#### PERFORMANCE STEPS:

- 1. Conduct mission analysis.
- 2. Plan engineer reconnaissance operations.
- 3. Determine reconnaissance requirements.
- 4. Issue the warning order.
- 5. Task organize personnel and equipment.
- 6. Coordinate security, fire support, and logistical support as required.
- 7. Issue the order.
- 8. Conduct rehearsals.
- 9. Inspect reconnaissance team.
- 10. Execute reconnaissance mission.
- 11. Submit reports.

#### **REFERENCES:**

- 1. GTA 05-02-012 Coordinated Scale and Protractor
- 2. GTA 05-07-013 Rapid Field Classification Booklet
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. MCRP 3-17A Engineering Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCRP 5-12A Operational Terms and Graphics
- 7. MCWP 3-17 Engineering Operations
- 8. MCWP 3-17.4 Engineer Reconnaissance

# SUPPORT REQUIREMENTS:

## RANGE/TRAINING AREA:

Facility Code 17413 Field Training Area

1302-SURV-1001: Design survivability positions

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**GRADES:** 2NDLT, 1STLT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a force protection requirement and references.

**STANDARD:** To counteract the known effects of enemy direct and indirect fire weapons in accordance with MCWP 3-17.6 Survivability.

### PERFORMANCE STEPS:

- 1. Submit Requests for Information (RFI) to S/G-2.
- 2. Determine types of positions required.
- 3. Design positions.
- 4. Determine material requirements.
- 5. Determine personnel required for construction.
- 6. Determine equipment required.
- 7. Calculate the time required for construction.
- 8. Submit designs/work estimates.

#### **REFERENCES:**

- 1. GTA 05-08-001 Survivability Positions
- 2. GTA 07-06-001 Fighting Position ConstructionInfantry Leader's Reference Card
- 3. GTA 90-01-011 Joint Forward Operations Base (JFOB) Protection Handbook
- 4. GTA 90-01-018 Joint Entry Control Point & Escalation of Force Procedures
- 5. MCRP 3-17A Engineering Field Data
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.6 Survivability Operations

1302-SURV-1002: Plan construction of blast mitigation measures

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

GRADES: 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical situation, an operations order, a map, and references.

<u>STANDARD</u>: To reduce damage to occupied structures while meeting unit requirements outlined in the concept of operations in accordance with MCWP 3-17.6 Survivability.

#### PERFORMANCE STEPS:

- 1. Conduct mission analysis.
- 2. Assess the level of protection from varying threats to force protection.
- 3. Estimate the specific effects on a structure with regard to enemy attack.
- 4. Recommend appropriate usage of structures depending on construction type and estimated threat.
- 5. Recommend protective measures to harden against blast effects.
- 6. Determine the required standoff to mitigate the effects of estimated threats.
- 7. Apply/recommend the elements of force protection to a proposed site.
- 8. Coordinate as required with supported commander.
- 9. Coordinate logistical support, as required.

- 1. GTA 90-01-011 Joint Forward Operations Base (JFOB) Protection Handbook
- 2. GTA 90-01-018 Joint Entry Control Point & Escalation of Force Procedures
- 3. MCRP 3-17A Engineer Field Data

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- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.5 Combined Arms Obstacle Integration
- 6. MCWP 3-17.6 Survivability Operations
- 7. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

1302-SURV-1003: Prepare a survivability plan

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

GRADES: 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical situation, a map, operations order, unit's survivability requirements, and references.

**STANDARD:** To utilize engineer assets consistent with the enemy threat identified, the concept of operations and in accordance with MCWP 3-17.6 Survivability.

#### PERFORMANCE STEPS:

- 1. Conduct mission analysis.
- 2. Identify location of survivability positions.
- Coordinate with supported unit for coordinating instructions, security, and logistical support.
- 4. Identify and prioritize survivability requirements.
- 5. Plan for protective obstacle integration.
- 6. Task organize engineer equipment and personnel.
- 7. Plan inspections of survivability positions.
- 8. Prepare survivability appendix to operations order.

## REFERENCES:

- 1. GTA 90-01-011 Joint Forward Operations Base (JFOB) Protection Handbook
- 2. GTA 90-01-018 Joint Entry Control Point & Escalation of Force Procedures
- 3. MCRP 3-17A Engineering Field Data
- 4. MCWP 3-1 Ground Combat Operations
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.5 Combined Arms Obstacle Integration
- 7. MCWP 3-17.6 Survivability Operations

1302-SURV-1004: Plan construction of a entry access control point as a part of a protective barrier plan

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**GRADES:** 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a tactical situation, an operations order, a map, and

references.

**STANDARD:** To regulate traffic and enhance survivability to a degree that meets the unit requirements outlined in the concept of operations and in accordance with MCWP 3-17.6 Survivability.

### PERFORMANCE STEPS:

- 1. Conduct mission analysis.
- 2. Conduct a site reconnaissance.
- 3. Determine expected levels of damage to existing structures from enemy bomb blasts.
- 4. Develop obstacle/barrier plan (as required).
- Design entry point (provide vehicle holding areas, personnel holding areas, active vehicle barriers, electric lighting, and over-watch fighting positions).
- 6. Develop Bill of Materials (BOM).
- 7. Determine task organization of personnel and equipment.

#### REFERENCES:

- 1. GTA 90-01-011 Joint Forward Operations Base (JFOB) Protection Handbook
- 2. GTA 90-01-018 Joint Entry Control Point & Escalation of Force Procedures
- 3. MCRP 3-17A Engineering Field Data
- 4. MCWP 3-17.5 Combined Arms Obstacle Integration
- 5. MCWP 3-17.6 Survivability Operations
- 6. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

1302-SURV-1005: Plan building hardening

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

GRADES: 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical situation, an operations order, a map, an occupied building and references.

**STANDARD:** To meet unit requirements outlined in the concept of operations in accordance with MCWP 3-17.6 Survivability.

#### PERFORMANCE STEPS:

- 1. Conduct mission analysis.
- 2. Recommend appropriate structures for survivability positions (according to construction type, threat weapons, and available materials/time).
- 3. Estimate specific effects on a structure of enemy direct and indirect fire weapons.
- 4. Plan protective measures to harden buildings against weapon effects.
- 5. Plan for additional structural support (allow for additional load of protective materials to prevent progressive collapse of an existing structure).
- 6. Plan fighting positions within an existing structure (allow for employment of infantry weapons from within an enclosed space).

- 7. Plan above ground fighting positions and shelters.
- 8. Integrate supporting agencies into fire prevention and firefighting plan.
- 9. Plan coordination of survivability/ countermobility plan with supported unit.
- 10. Develop a countermobility plan that supports the commander's intent (disrupt, fix, turn, block).
- 11. Correct deficiencies.
- 12. Plan modification of positions/obstacles to provide better support to supported units as required.

### **REFERENCES:**

- 1. MCRP 3-17A Engineering Field Data
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCWP 3-17.6 Survivability Operations
- 4. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

1302-VERT-1001: Plan a vertical construction project

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: 2NDLT, 1STLT, CAPT, MAJ

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical situation, a map, operations order, construction standards, task organized personnel and equipment, and references.

**STANDARD:** To meet requirements outlined in the concept of operations and the construction standards in accordance with MCRP 3-17.7C Carpentry.

## PERFORMANCE STEPS:

- 1. Conduct mission analysis.
- 2. Conduct site reconnaissance.
- 3. Determine soil stabilization requirements.
- 4. Determine drainage requirements.
- 5. Develop bill of materials (BOM).
- 6. Determine logistical requirements.
- 7. Establish a safety plan.
- 8. Establish quality control program.
- 9. Coordinate as required with supported commander.
- 10. Illustrate final design/design blueprints.
- 11. Coordinate logistical support, as required.
- 12. Coordinate security measures, as required.

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7D Concrete and Masonry
- 3. MCRP 3-17.7F Construction Project Management
- 4. MCRP 3-17.7M Construction Estimating
- 5. ModCarp 2008 Modern Carpentry, 11 Edition Wagner/Smith
- 6. NAVPERS 0-486-20242-9 Basic Construction Techniques for Houses and Small Buildings

#### SUPPORT REQUIREMENTS:

MATERIAL: Blueprints/drawings/specifications, map, calculation worksheets, calculator, engineer forms and reports.

#### 13003. 2000-LEVEL EVENTS

1302-ADMN-2001: Produce an engineer estimate

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Engineer Company Commander and Staff Officer

GRADES: Capt, Maj, LtCol

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Given a supported unit's higher headquarters CONOPS, IPB products, organic engineer forces as part of the supported unit's Operational Planning Team (OPT) during MCPP

**STANDARD:** That identifies critical engineer tasks, task organization, and command/support relationships.

#### PERFORMANCE STEPS:

- 1. Prepare engineer planning tools for participation in supported unit (OPT).
- 2. Analyze available IPB products from supported unit intelligence section.
- 3. Analyze supported commander's estimate of the situations (METT-T).
- 4. Analyze higher headquarters CONOPS.
- 5. Conduct Engineer Battlespace Assessment (EBA).
- 6. Identify supported unit functional engineer requirements.
- 7. Identify available critical engineer resources (materiel, supplies, MOS personnel) for engineer Mission Essential Tasks.
- 8. Compare engineer assets against requirements.
- 9. Identify supported unit priorities of engineer effort.
- 10. Use standard planning factors and or known unit work rates to quantify total engineer unit capability available for each task.
- 11. Analyze logistics requirements across supported engineer missions.
- 12. Identify engineer capabilities short falls.
- 13. Allocate engineer forces to meet supported unit engineer functional requirements.
- 14. Identify critical engineer tasks (purpose/method/end state) for each phase of supported unit's concept of operations.
- 15. Coordinate critical engineer tasks integration with supported unit plan.
- 16. Develop engineer concept of operations that supports the supported unit's (SOM).
- 17. Task organize engineer forces.
- 18. Assign tasks.
- 19. Recommend command and support relationships.
- 20. Produce initial engineer staff estimate products.

21. Maintain running engineer staff estimate.

### REFERENCES:

- 1. JP 3-15 Barriers, Obstacles, and Mine Warfare for Joint Operations
- 2. JP 3-34 Joint Engineer Operations
- 3. MCDP 1 Warfighting
- 4. MCDP 3 Expeditionary Operations
- 5. MCWP 3-17 Engineer Operations
- 6. MCWP 3-17.4 Engineer Reconnaissance
- 7. MCWP 3-17.7 General Engineering
- 8. MCWP 3-17.8 Combined Arms Mobility Operations
- 9. MCWP 3-40.1 MAGTF Command and Control
- 10. MCWP 4-11 Tactical-Level Logistics
- 11. MCWP 4-12 Operational-Level Logistics
- 12. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 13. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 14. MCRP 3-17B Engineer Forms and Reports
- 15. MCWP 3-17.7 General Engineering
- 16. MCRP 3-17.7F Project Management
- 17. MCRP 5-12A Operational Terms and Graphics
- 18. MCO P4790.2\_ MIMMS Field Procedures Manual
- 19. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES)
- 20. FM 3-34.22 Engineer Operations Brigade Combat Team and Below
- 21. FM 5-34 Engineer Field Data
- 22. FM 34-130 Intelligence Preparation of the Battlefield
- 23. ATTP 3-34.23 Engineer Operations-Echelons above Brigade Combat Team
- 24. TM 4700-15/1H Ground Equipment Records Procedures Manual
- 25. UM 4400-15 Marine Corps User Manual (Organic Property Control)

## SUPPORT REQUIREMENTS:

<u>UNITS/PERSONNEL</u>: Billet Assignment: Engineer Company Commander and Staff Officer functions.

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Some performance steps are conducted concurrently.

1302-ADMN-2002: Manage supported unit engineer requirements

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Battalion Commander, Company Commander, Staff Officer

GRADES: CAPT, MAJ, LTCOL

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: As part of a MAGTF, given multiple supported unit engineer requirements, an engineer running estimate, command and control systems, supported unit commander's intent, concept of operations, and priorities of engineer effort.

**STANDARD:** So that engineer planning, coordination, and asset allocation, meets the supported commander's intent and concept of operations.

### PERFORMANCE STEPS:

- 1. Design the supported units engineer requirements process.
- 2. Implement the supported units engineer requirements process.
- 3. Forecast requirements for future engineer missions.
- 4. Identify supported unit engineer requirements per the process.
- 5. Validate supported unit engineer requirements per the process.
- 6. Resource supported unit engineer requirements per the process.
- 7. Manage status of critical engineer assets and materials.

- 1. JP 3-34 Joint Engineer Operations
- 2. MCWP 3-17 Engineer Operations
- 3. MCWP 3-17.4 Engineer Reconnaissance
- 4. MCWP 3-17.5 Combined Arms Obstacle Integration
- 5. MCWP 3-17.7 General Engineering
- 6. MCWP 3-17.8 Combined Arms Mobility Operations
- 7. MCWP 4-1 Logistics Operations
- 8. MCWP 4-11 Tactical-Level Logistics
- 9. MCWP 4-11.3 Transportation Operations
- 10. MCWP 4-11.5 Seabee Operations in the MAGTF
- 11. MCWP 4-12 Operational Level Logistics
- 12. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 13. MCRP 3-17B Engineer Forms and Reports
- 14. MCWP 3-17.7 General Engineering
- 15. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 16. MCRP 3-17.7F Project Management
- 17. MCRP 3-17.7M Construction Estimating
- 18. MCRP 3-17.7N Base Camps
- 19. MCRP 4-11E Contingency Contracting
- 20. MCRP 4-11.3F Convoy Operations Handbook
- 21. MCIP 3-17.02 MAGTF Counter-Improvised Explosive Device (C-IED) Operations
- 22. MCO 3000.13\_ Marine Corps Readiness Reporting Standard Operating Procedures (SOP)
- 23. MCO 3000.18\_ Marine Corps Force Deployment Planning and Execution (FDP&E) Manual
- 24. MCO 3502.6 Marine Corps Force Generation Process
- 25. MCO P4790.2\_ MIMMS Field Procedures Manual
- 26. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 27. FM 3-34 Engineer Operations
- 28. FM 3-34.22 Engineer Operations Brigade Combat Team And Below
- 29. FM 5-34 Engineer Field Data
- 30. FM 5-430-00-1, Volume 1 Planning and Design of Roads, Airbases, and Heliports in the Theater of Operations
- 31. FM 5-430-00-2 Planning and design of roads, airfields, and heliports in the theater of operations Airfield and Heliport design
- 32. ATTP 3-34.23 Engineer Operations-Echelons above Brigade Combat Team
- 33. TM 4700-15/1H Ground Equipment Records Procedures Manual
- 34. UM 4400-15 Marine Corps User Manual (Organic Property Control)
- 35. NAVAIR 00-80T-115 Expeditionary Airfield NATOPS Manual

- 36. JFOB Joint Forward Operations Base (Force Protection), Current Edition
- 37. Regulation Number 415-1 Construction and Base Camp Development in the USCENTCOM Area of Responsibility "The Sand Book"
- 38. Regulation Number 415-1 Red Book AEAEN Mar 31, 2004
- 39. MSTP Pamphlet 1-0.1

1302-ADMN-2003: Plan the integration of other service component engineer capabilities

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Company Commander, Staff Officer

GRADES: CAPT, MAJ, LTCOL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a higher commander's order, intent, and concept of operation, operating in a joint/coalition/interagency environment and facing functional engineer capability shortfalls.

**STANDARD:** To ensure that the engineer effort meets or exceeds the commander's intent and concept of operations.

#### PERFORMANCE STEPS:

- 1. Identify MAGTF functional engineer shortfalls.
- 2. Identify other service engineer capabilities.
- 3. Recommend a sourcing solution.
- 4. Recommend command and support relationships.
- 5. Arrange sustainment of other service engineers.
- 6. Arrange integration of other service engineers into plans and rehearsals.

- 1. 10 U.S.C. Title 10 U.S. Code
- 2. DoD Directive 5100.1 Functions of the Department of Defense and its Major Components
- 3. JP 3-34 Joint Engineer Operations
- 4. MCDP 3 Expeditionary Operations
- 5. MCDP 6 Command and Control
- 6. MCWP 3-17 Engineer Operations
- 7. MCWP 3-17.7 General Engineering
- 8. MCWP 3-40.1 MAGTF Command and Control
- 9. MCWP 3-40.2 Information Management
- 10. MCWP 3-40.8 Marine Corps Componency
- 11. MCWP 4-11 Tactical-Level Logistics
- 12. MCWP 4-11.5 Seabee Operations in the MAGTF
- 13. MCWP 4-12 Operational-Level Logistics
- 14. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 15. MCRP 3-17.7F Project Management
- 16. MCO 3000.13\_ Marine Corps Readiness Reporting Standard Operating Procedures (SOP)
- 17. MCO 3000.18\_ Marine Corps Force Deployment Planning and Execution (FDP&E)

Manual

- 18. MCO 3500.26\_ Universal Naval Task List (UNTL) Version 3.0
- 19. NAVMC 3500.12\_ Marine Corps Engineer and Utilities Training and Readiness Manual
- 20. NAVAIR 00-80T-115 Expeditionary Airfield NATOPS Manual
- 21. UM 4400-15 Marine Corps User Manual (Organic Property Control)
- 22. FM 3-34.22 Engineer Operations Brigade Combat Team And Below
- 23. FM 5-34 Engineering Field Data
- 24. ATTP 3-34.23 Engineer Operations-Echelons above Brigade Combat Team
- 25. NAVFAC P-405 Seabee Planner's and Estimator's Handbook
- 26. JFOB Joint Forward Operations Base (Force Protection), Current Edition
- 27. Regulation Number 415-1 Construction and Base Camp Development in the USCENTCOM Area of Responsibility "The Sand Book"
- 28. Regulation Number 415-1 Red Book AEAEN Mar 31, 2004

1302-ADMN-2004: Integrate contracted support into engineer operations

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Company Commander, Staff Officer

GRADES: CAPT, MAJ, LTCOL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an engineer Statement of Work (SOW) that requires contracted support.

**STANDARD:** To ensure the contract supports meets or exceeds the expectations of the Commander's intent in accordance with the concept of operations.

## PERFORMANCE STEPS:

- 1. Review Statement of Work (SOW).
- 2. Determine capability shortfalls and time constraints.
- 3. Identify contractor capabilities.
- 4. Submit contract support request through chain of command.
- 5. Establish process for tracking and reporting receipt of contracted support (services/materials).
- 6. Provide input to the contracting process.
- 7. Develop contingency plans if contractors are not able to complete the task.
- 8. Supervise the construction execution.
- 9. Verify the construction is completed in accordance with contract.

- 1. JP 3-34 Joint Engineer Operations
- 2. JP 4-10 Operational Contract Support
- 3. MCWP 3-17.4 Engineer Reconnaissance
- 4. MCRP 3-17.7M Construction Estimating
- 5. MCRP 4-11E Contingency Contracting
- 6. FM 3-100.21 Contractors on the Battlefield
- 7. FM 5-412 Project Management
- 8. ATTP 4-10 Operational Contract Support Tactics, Techniques, and

Procedures

- 9. MAAWS-A (Money as a Weapons System-Afghanistan)
- 10. TCMS (Automated) Theater Construction Management System

1302-ADMN-2005: Assess an engineer unit's operational readiness

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**BILLETS:** Battalion Commander, Company Commander

GRADES: CAPT, MAJ, LTCOL

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Given reporting requirements, the Training and Readiness Manual, unit standing operating procedures, Unit Training Management tools, higher assigned training requirements, unit commanders training guidance, unit training plan, higher headquarters' TEEP and TO&E.

**STANDARD:** To identify deficiencies, required resources, and providing plans to ensure unit is mission capable.

### PERFORMANCE STEPS:

- 1. Coordinate with subordinate unit leaders to capture data for assessment.
- 2. Analyze personnel readiness and determine P-Level.
- 3. Analyze organic Principal End Item (PEI) equipment and determine S-Level (Supply).
- 4. Analyze organic Principal End Item (PEI) equipment and determine R-Level (equipment readiness).
- 5. Analyze unit proficiency against Mission Essential Tasks (METs) and determine T-Level (personnel trained).
- 6. Analyze CBRN capabilities and determine CBRN Overall Level.
- Analyze the unit's ability to conduct its Core Mission and determine C-Level.
- 8. Analyze the unit's ability to conduct its Assigned Mission and determine Assigned Mission Level, as required.
- 9. Record data and input mandatory remarks into the Defense Readiness Reporting System (DRRS), as required.
- 10. Submit DRRS report to higher headquarters, as required.

- 1. MCO 1553.3A Unit Training Management (UTM)
- 2. MCO 3000.11\_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
- 3. MCO 3000.13\_ Marine Corps Readiness Reporting Standard Operating Procedures (SOP)
- 4. MCO 3502.6 Marine Corps Force Generation Process
- 5. MCO 4105.2 Marine Corps Warranty Program
- 6. MCO 4855.10\_ Product Quality Deficiency Report (PQDR)
- 7. MCO 5600.31\_ Marine Corps Printing and Publishing Regulations
- 8. MCO P3500.72A Marine Corps Ground Training and Readiness (T&R) Program
- 9. MCO P4790.1\_ Marine Corps Integrated Maintenance Management System (MIMMS) Introduction Manual
- 10. MCO P4790.2\_ MIMMS Field Procedures Manual

- 11. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 12. MCO P4400.16\_ Field Supply and Maintenance Analysis Office Program (FSMAO)
- 13. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 14. UM 4400-124 SASSY Using Unit Procedures
- 15. UM 4790-5 MIMMS-AIS Field Maintenance Procedures
- 16. TM 4700-15/1\_ Ground Equipment Record Procedures
- 17. NAVMC 3500.12\_ Marine Corps Engineer and Utilities Training and Readiness Manual
- 18. Systems Approach to Training (SAT) Manual
- 19. Marine Corps Equipment Readiness Information Tool (MERIT)
- 20. Table of Organization (T/O) (TFSMS)
- 21. Table of Equipment (T/E) (TFSMS)
- 22. MDSS II (MAGTF Deployment Support System II)
- 23. CMR Consolidated Memorandum Receipt

1302-PLAN-2006: Support the Marine Corps Force Development System (MCFDS)

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Company Commander, Staff Officer

GRADES: CAPT, MAJ, LTCOL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a requirement, while representing engineer operating forces.

**STANDARD:** To aid in the implementation of solutions and enhance the engineer capabilities across the MAGTF.

## PERFORMANCE STEPS:

- 1. Have general knowledge of the Marine Corps Force Development System (MCFDS).
- 2. Provide input into the capabilities analysis phase, as required.
- 3. Provide input into the solutions analysis phase, as required.
- 4. Provide input into the program development phase, as required.
- 5. Provide input into the capabilities implementation and transition phase, as required.

- 1. SECNAVINST 5000.2\_Implementation and Operation of the Defense Acquisition System and the Joint Capabilities Integration and Development System
- 2. CJCSI 3170.01\_ Joint Capabilities Integration and Development System (JCIDS)
- 3. MCO 3900.15\_ Marine Corps Expeditionary Force Development System (EFDS)
- 4. MCO 3900.17\_ The Marine Corps Urgent Needs Process (UNP) and the Urgent Universal Need Statement (Urgent UNS)
- 5. USMC EOD Road Map 2025

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1302-DEMO-2001: Plan demolition operations

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Company Commander, Staff Officer

GRADES: CAPT, MAJ, LTCOL

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Given a tactical scenario, an operation order from higher headquarters, multiple demolition tasks, problem framing products, a Class V allocation, and the references.

**STANDARD:** Develop a concept of operations that supports the demolition tasks and commander's intent.

### PERFORMANCE STEPS:

- 1. Direct demo reconnaissance (as required).
- 2. Direct target analysis.
- 3. Prioritize targets based on commander's intent.
- 4. Develop a concept of operations.
- 5. Develop demolition plans for multiple sites.
- 6. Synchronize demolition order (control/ timing) with supported unit's concept of operation.
- 7. Conduct confirmation brief (as required).
- 8. Submit engineer reports (as required).

## REFERENCES:

- 1. JP 3-34 Joint Engineer Operations
- 2. MCWP 3-17 Engineer Operations
- 3. MCRP 3-17B Engineer Forms and Reports
- 4. MCWP 3-40.1 MAGTF Command and Control
- 5. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 6. MCRP 3-17A Engineer Field Data
- 7. MCRP 3-17.2D Explosive Hazard Operations
- 8. MCRP 3-17.7L Explosives and Demolitions
- 9. MCO 3570.1B Range Safety (Jun 03)
- 10. FM 3-34.22 Engineer Operations Brigade Combat Team And Below
- 11. DA PAM 385-63 Department of the Army Range Safety
- 12. AR 385-63/ DA PAM 385-63/MCO 3570.1B Range Safety

<u>1302-DEMO-2002</u>: Plan the integration of Explosive Ordnance Disposal (EOD) capabilities

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Company Commander, Staff Officer

GRADES: CAPT, MAJ, LTCOL

INITIAL TRAINING SETTING: FORMAL

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**CONDITION:** Given a higher commander's order, intent, concept of operation, and an engineer estimate.

**STANDARD:** So that the engineer effort meets the MAGTF commander's intent and concept of operations.

#### PERFORMANCE STEPS:

- 1. Identify required Explosive Ordnance Disposal capabilities.
- 2. Recommend task organization.
- 3. Integrate EOD's Concept of Operation.
- 4. Establish procedures to monitor EOD tasks, assets, and resources. (as required)

#### **REFERENCES:**

- 1. JP 3-34 Joint Engineer Operations
- 2. MCWP 3-17.2 MAGTF Explosive Ordnance Disposal
- 3. MCWP 3.21.1 Aviation Ground Support
- 4. MCWP 3-40.1 MAGTF Command and Control
- 5. MCRP 3-17.2 Multiservice Procedures for Explosive Ordnance Disposal (NTTP) in a Joint Environment
- 6. MCO 3571.2\_ Explosive Ordnance Disposal (EOD) Program
- 7. FM 3-34.22 Engineer Operations Brigade Combat Team And Below

1302-MAR-2001: March with a fighting load

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1302

GRADES: 2NDLT, 1STLT, CAPT, MAJ, LTCOL

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Given an individual weapon, a fighting load, and as part of a unit movement.

STANDARD: To complete a 15-kilometer march within four hours.

#### PERFORMANCE STEPS:

- 1. Assemble the load for the march.
- 2. Don the load for the march.
- 3. Complete a 15 kilometer march.

#### REFERENCES:

1. MCRP 3-02A Marine Physical Readiness Training for Combat

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Prior to executing this event, Marines will conduct a 5K and 10K march with the fighting load.

1302-MOBL-2001: Plan engineer Aviation Ground Support (AGS) operations

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Company Commander, Squadron Commander, Staff Officer

GRADES: CAPT, MAJ, LTCOL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an operation order, commander's intent, TFSMS Mission Statement for MWSS, completed problem framing.

STANDARD: To facilitate air base and Forward Arming and Refueling Points (FARPs) operations, enabling the Air Combat Element (ACE) to conduct expeditionary operations.

### PERFORMANCE STEPS:

- 1. Plan engineer support requirements for airfield operations.
- 2. Plan essential engineer services for airfield operations.
- 3. Coordinate Airbase Ground Defense (ABGD) requirements.
- 4. Coordinate Base Recovery After Attack (BRAAT) engineer requirements.
- 5. Plan for Airfield Damage Repair (ADR), as required.
- 6. Generate engineer AGS concept of operations for airfield operations.
- 7. Advise commander on most efficient use of engineer assets.
- 8. Coordinate with adjacent units to ensure essential engineer assets.

#### REFERENCES:

- 1. MCWP 3-17.2 MAGTF Explosive Ordnance Disposal
- 2. MCWP 3-17.4 Engineer Reconnaissance
- 3. MCWP 3.21.1 Aviation Ground Support
- 4. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 5. MCRP 4-11.3E Multi-service Helicopter Sling Load: Vols I, II and III
- 6. NAVAIR 00-80T-115 Expeditionary Airfield NATOPS Manual
- 7. FM 3-34.22 Engineer Operations Brigade Combat Team And Below
- 8. FM 5-430-00-1 Volume 1 Planning and Design of Roads, Airbases, and Heliports in the Theater of Operations
- 9. FM 5-430-00-2 Volume 2 Planning and Design of Roads, Airbases, and Heliports in the Theater of Operations Airfield and Heliport design
- 10. UFC 3-270-07 Airfield Damage Repair

1302-MOBL-2002: Determine design criteria for contingency construction operations

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Engineer Company/Squadron Commander and Staff Officer

GRADES: Capt, Maj, LtCol

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a mission, commander's intent, Table of Organization and Table of Equipment, references, and terrain analysis.

STANDARD: In accordance with theater construction standards.

#### PERFORMANCE STEPS:

- Identify the phase of construction (initial, temporary, or semipermanent).
- 2. Research theater construction standard references. (Red/Blue/Sand books, Unified Facilities Criteria (UFC) and the current International Building Codes (IBC))
- 3. Review base camp planning considerations, as required.
- 4. Research Theater Construction Management System (TCMS) website to identify applicable or similar designs for project.
- 5. Modify design/plans, as required.
- 6. Determine aggregate requirements, as required.
- 7. Determine concrete requirements, as required.
- 8. Determine vertical/horizontal wood beam support requirements, as required.
- 9. Determine vertical/horizontal steel I-beam support requirement, as required.
- 10. Determine structural support connection requirements (i.e. bolts, brackets), as required.
- 11. Verify construction standards are in accordance with theatre standards (Red/Blue/Sand books, Unified Facilities Criteria (UFC) and the current International Building Codes (IBC)).
- 12. Utilize reach back capability such as SEABEES or United States Army Corps of Engineers (USACE), as required.
- 13. Submit design for approval as directed by chain of command.

## REFERENCES:

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7D Concrete and Masonry
- 3. MCRP 3-17.7M Construction Estimating
- 4. MCRP 3-17.7N Base Camps
- 5. UFC 1-201-01 Unified Facilities Criteria (UFC) General Building Requirements
- 6. UFC 3-301-01 Structural Engineering
- 7. UFC 3-501-01 Electrical Engineering
- 8. 2013 International Building Code

1302-RECN-2001: Provide engineer inputs to the intelligence cycle

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Company Commander, Staff Officer

GRADES: CAPT, MAJ, LTCOL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical situation, engineer reconnaissance data, reports, and references.

STANDARD: So that engineer equities are integrated.

### PERFORMANCE STEPS:

- 1. Receive task/mission.
- 2. Identify engineer intelligence requirements to support the mission.
- 3. Identify engineer reconnaissance capabilities available to conduct collection.
- 4. Recommend engineer related Named Area of Interest (NAI)/Target Area of Interest (TAI).
- 5. Request Intelligence/Surveillance/Reconnaissance (ISR) support.
- 6. Conduct engineer reconnaissance, as required.
- 7. Integrate data from engineer forms and reports into intelligence products.
- 8. Update the Common Operational Picture (COP).
- 9. Disseminate engineer information.
- 10. Obtain feedback on the utilization of engineer information.

#### REFERENCES:

- 1. JP 2-01.3 Joint Tactics, Techniques, and Procedures for Joint Intelligence Preparation of the Battlespace
- 2. JP 3-34 Joint Engineer Operations
- 3. MCWP 2-1 Intelligence Operations
- 4. MCWP 3-17 Engineer Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3.21.1 Aviation Ground Support
- 7. MCWP 3-40.1 MAGTF Command and Control
- 8. MCWP 3-40.2 Information Management
- 9. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 10. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 11. FM 3-34.22 Engineer Operations Brigade Combat Team And Below
- 12. FM 3-90 Tactics
- 13. FM 5-0 Army Planning and Orders Production
- 14. FM 34-130 Joint Pub Intelligence Preparation of the Battlefield
- 15. ATTP 3-34.23 Engineer Operations-Echelons above Brigade Combat Team
- 16. MSTP Pamphlet 3-0.2 MAGTF SWO Guide

### SUPPORT REQUIREMENTS:

UNITS/PERSONNEL: Billet Assignment: Engineer Company Commander and Staff
Officer functions

# ENG & UTIL T&R MANUAL

# CHAPTER 14

## MOS 1310 INDIVIDUAL EVENTS

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#### ENG & UTIL T&R MANUAL

#### CHAPTER 14

#### MOS 1310 INDIVIDUAL EVENTS

14000. PURPOSE. This chapter details the individual events that pertain to Engineer Equipment Officer. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful.

14001. EVENT CODING. Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX-XXXX. This chapter utilizes the following methodology

a. Field one. This field represents the community. This chapter contains the following community codes:

Code Description
1310 Engineer Equipment Officer

b. Field two. This field represents the functional/duty area. This chapter contains the following functional/duty areas:

Code<br/>ADMNDescription<br/>AdministrationHEOPHeavy Equipment OperationsHORZHorizontal ConstructionMANTMaintenance

c. Field three. This field provides the level at which the event is accomplished and numerical sequencing of events. This chapter contains the following event levels:

<u>Code</u> <u>Description</u> 2000 Core Plus Skills

## 14002. INDEX OF INDIVIDUAL EVENTS

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## 14003. 2000-LEVEL EVENTS

1310-ADMN-2001: Manage publications program

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1310

BILLETS: Engineer Equipment Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

 $\underline{\text{CONDITION}}$ : With unit's Publications Listing (PL) and Table of Organization and Equipment (T/O&E), access to publications websites and management systems, and references.

**STANDARD:** Ensuring required publications are available to maintain the section's operational capabilities and readiness.

## PERFORMANCE STEPS:

- 1. Review the references.
- 2. Identify publication requirements based on mission and T/O&E.
- 3. Audit section's Individual Distribution Listing (IDL).
- 4. Validate on-hand publications inventory.
- 5. Inspect section's library for missing or outdated publications.
- 6. Verify that published changes are made to publications.
- 7. Evaluate control procedures.
- 8. Evaluate NAVMC 10772 procedures.
- 9. Correct deficiencies.

## REFERENCES:

1. MCO 4400.120\_ Joint Regulation Governing the Use and Application of Uniform Source Maintenance and Recoverability Codes

- 2. MCO 5215.1\_ Marine Corps Directives Management Program
- 3. MCO 5600.20\_ Marine Corps Doctrinal Publications System
- 4. MCO 5600.31\_ Marine Corps Printing and Publishing Regulations
- 5. MCO P4400.82 Regulated/Controlled Item Management Manual
- 6. MCO P4790.2\_ MIMMS Field Procedures Manual
- 7. MCO P5215.17\_ The Marine Corps Technical Publications System
- 8. NAVMC 2761 Catalog of Publications
- 9. PLMS V3 UG Publication Library Management System Version 3 Users Guide
- 10. SECNAV M-5210.2\_ Department of the Navy Standard Subject Identification Code (SSIC) Manual
- 11. UNIT SOP Unit's Standing Operating Procedures

1310-ADMN-2002: Manage engineer equipment records and forms

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1310

BILLETS: Engineer Equipment Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided items of engineer equipment, appropriate records/forms, and references.

STANDARD: To support mission requirements.

## PERFORMANCE STEPS:

- 1. Review the references.
- 2. Identify requirements for engineer equipment records/forms.
- 3. Ensure records for each item of engineer equipment are established as required.
- 4. Manage records and forms.
- 5. Manage Product Quality Deficiency Report (PQDR) program.

#### **REFERENCES:**

- 1. MCO 4105.2 Marine Corps Warranty Program
- 2. MCO 4790.19 Depot Maintenance Policy
- 3. MCO P11262.2 Inspection, Testing, and Certification of Tactical Ground Load Lifting Equipment
- 4. MCO P4790.2\_ MIMMS Field Procedures Manual
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures
- 6. UM 4790-5 Users Manual MIMMS

 $\underline{\textbf{1310-ADMN-2003}}$ : Manage support and test equipment program

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1310

BILLETS: Engineer Equipment Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided support and test equipment and references.

STANDARD: To support mission requirements in accordance with MCO P4790.2 .

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review support and test equipment assets and requirements.
- 3. Supervise support and test equipment inventory and control.

#### **REFERENCES:**

- 1. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 2. MCO P4790.2\_ MIMMS Field Procedures Manual
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures

1310-ADMN-2004: Manage maintenance-related programs

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1310

**BILLETS:** Engineer Equipment Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided maintenance resources, local maintenance directives, and the references.

STANDARD: To support mission requirements in accordance with MCO P4790.2 .

## PERFORMANCE STEPS:

- 1. Review the references.
- 2. Provide input to the Maintenance Management SOP (MMSOP).
- 3. Validate modification control program.
- 4. Validate calibration control program.
- 5. Validate quality control program.
- 6. Monitor Corrective Maintenance (CM program.
- 7. Monitor Preventive Maintenance (PM) program.
- 8. Plan the use of maintenance resources.
- 9. Organize the use of maintenance resources.
- 10. Coordinate the use of maintenance resources.
- 11. Conduct internal inspections.

- 1. DLA Customer Assistance Handbook
- 2. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)

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- 3. MCO 4855.10\_ Product Quality Deficiency Report (PQDR)
- 4. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 5. MCO P4733.1\_ Marine Corps TMDE Calibration and Maintenance Program
- 6. MCO P4790.2\_ MIMMS Field Procedures Manual
- 7. TI 4733-OD/1\_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
- 8. TM 4700-15/1\_ Ground Equipment Record Procedures

1310-ADMN-2005: Manage engineer equipment section supply support program

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1310

BILLETS: Engineer Equipment Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided maintenance-related reports, appropriate equipment-related publications, and references.

STANDARD: To support unit mission in accordance with MCO P4400.150.

### PERFORMANCE STEPS:

- 1. Review the references.
- 2. Review supply support request.
- 3. Submit input for budget requirements.
- 4. Monitor allocated funding.
- 5. Monitor pre-expended bin (PEB).
- 6. Monitor layette procedures.
- 7. Submit input for supply requirements.
- 8. Monitor validation/reconciliation procedures.

### **REFERENCES:**

- 1. MCO 4400.120\_ Joint Regulation Governing the Use and Application of Uniform Source Maintenance and Recoverability Codes
- 2. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
- 3. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 4. MCO P4400.82\_ Regulated/Controlled Item Management Manual
- 5. MCO P4790.2\_ MIMMS Field Procedures Manual
- 6. MCO P7100.8\_ Field Budget Guidance Manual
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures
- 8. UM 4400-124 SASSY Using Unit Procedures
- 9. UM 4790-5 MIMMS-AIS Field Maintenance Procedures

1310-ADMN-2006: Manage engineer equipment licensing program

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1310

BILLETS: Engineer Equipment Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With personnel, equipment, documentation, licensing records, and references.

**STANDARD:** Ensuring equipment operators are licensed in accordance with TM  $\frac{11275-15}{4}$ .

### PERFORMANCE STEPS:

- 1. Review the references.
- 2. Determine operator licensing requirements.
- 3. Review equipment training and testing programs.
- 4. Review and approve/reject licensing applications (and renewals).
- 5. Review and approve completed OF 346.
- 6. Ensure any licensing action (issue/renewal/revocation) is documented and recorded.

#### **REFERENCES:**

- 1. MCO P11262.2 Inspection, Testing, and Certification of Tactical Ground Load Lifting Equipment
- 2. MCO P4790.1\_ Marine Corps Integrated Maintenance Management System (MIMMS) Introduction Manual
- 3. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 4. TM 11275-15/4 Tactical Engineer Equipment Licensing Manual
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures
- 6. UNIT SOP Unit's Standing Operating Procedures
- 7. Unit T/O&E Unit's Table of Organization and Equipment

1310-ADMN-2007: Manage load test of engineer equipment

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1310

BILLETS: Engineer Equipment Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided appropriate load lifting equipment with current annual condition inspection (ACI), maintenance resources, and references.

**STANDARD:** To ensure load testing is conducted, certified, documented and maintained on a scheduled basis.

#### PERFORMANCE STEPS:

1. Review the references.

- 2. Identify load testing requirements.
- 3. Verify that a current (ACI) has been conducted.
- 4. Conduct a load test.
- 5. Document load test results.
- 6. Review documentation.
- 7. Certify documentation.

- 1. Appropriate Technical Manuals
- 2. MCO P11262.2 Inspection, Testing, and Certification of Tactical Ground Load Lifting Equipment
- 3. MCO P4790.2\_ MIMMS Field Procedures Manual
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures

1310-ADMN-2008: Manage corrosion prevention and control program

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1310

BILLETS: Engineer Equipment Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: Given an equipment section, required safety materials, appropriate tools, and the references.

**STANDARD:** To maintain equipment in an operational status.

## PERFORMANCE STEPS:

- 1. Identify corrosion prevention and control requirements.
- 2. Establish corrosion prevention and control procedures.
- 3. Manage corrosion prevention and control procedures.

#### **REFERENCES:**

- 1. MCO 4790.18\_ Corrosion Prevention and Control (CPAC) Program
- 2. TM 3080-12 Corrosion Control for Marine Corps Ground Equipment
- 3. TM 3080-50 Corrosion Control Procedures

1310-ADMN-2009: Manage engineer equipment MOS training program

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1310

BILLETS: Engineer Equipment Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

CONDITION: With training resources, records and references.

STANDARD: Identifying engineer training requirements in accordance with unit SOP.

#### PERFORMANCE STEPS:

- 1. Review the references.
- 2. Review the annual training plan.
- 3. Review the section training plan.
- 4. Identify supervisor's responsibilities.
- 5. Monitor personnel conducting training.
- 6. Ensure training is documented correctly.

#### **REFERENCES:**

- MCO 11240.66\_ Standard Licensing Policy for Operators of Military Motor Vehicles
- 2. MCO 1553.3\_ Unit Training Management (UTM) Program
- 3. MCO 3500.27\_ Operational Risk Management (ORM)
- 4. MCO P3500.72\_ Marine Corps Ground Training and Readiness (T&R) Program
- 5. MCRP 3-0A Unit Training Management Guide
- 6. MCRP 3-0B How to Conduct Training
- 7. NAVMC 3500.12\_ Marine Corps Engineer and Utilities Training and Readiness Manual
- 8. SOP Unit/Local Standard Operating Procedures
- 9. TM 11275-15/4 Tactical Engineer Equipment Licensing Manual

1310-ADMN-2010: Conduct an operational risk assessment (ORA)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: Given the inherent dangers involved working around engineer equipment, effort must be made to ensure risks are reduced or eliminated by implementing controls.

MOS PERFORMING: 1310

BILLETS: Engineer Equipment Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Given a task/mission, a Risk Management Worksheet, and references.

**STANDARD:** So that task/mission effectiveness is increased while loss of personnel and material is minimized through the use of risk management controls.

# PERFORMANCE STEPS:

- 1. Review the task/mission.
- 2. Review the references.
- 3. Identify the hazards.

- 4. Assess hazards to identify severity and probability.
- 5. Develop controls.
- 6. Make risk decisions.
- 7. Implement controls.

- 1. MCO 3500.27\_ Operational Risk Management (ORM)
- 2. MCO 5100.29\_ Marine Corps Safety Program
- 3. MCO P5102.1\_ Navy and Marine Corps Mishap and Safety Investigation Reporting and Record Keeping Manual
- 4. MCRP 5-12.1C Risk Management Cancelled w/o replacement

1310-HEOP-2001: Manage engineer equipment operations

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1310

BILLETS: Engineer Equipment Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided engineer equipment, available resources, mission statement, and references.

STANDARD: To support mission statement and requirements.

## PERFORMANCE STEPS:

- 1. Review the mission.
- 2. Identify engineer equipment assets required.
- 3. Conduct engineer equipment operations.
- 4. Manage Material Handling Equipment (MHE) employment.
- 5. Manage earth moving equipment employment.
- 6. Manage general support engineer equipment employment.
- 7. Manage equipment recovery operations, as required.

#### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCO 3500.27\_ Operational Risk Management (ORM)
- 3. MCRP 3-17.7I Earthmoving Operations
- 4. MCRP 3-17A Engineering Field Data
- 5. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment

1310-HORZ-2001: Manage horizontal construction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1310

BILLETS: Engineer Equipment Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a horizontal construction project, a construction site, engineer equipment, resources, and references.

STANDARD: To meet milestones per the project specifications.

#### PERFORMANCE STEPS:

- 1. Create a construction plan.
- 2. Implement the construction plan.
- 3. Manage personnel.
- 4. Manage equipment employment.
- 5. Consolidate available resources.
- 6. Conduct quality assurance.

### **REFERENCES:**

- 1. MCRP 3-17.7F Project Management
- 2. MCRP 3-17.7I Earthmoving Operations
- 3. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment

 $\underline{\text{1310-HORZ-2002}}$ : Manage horizontal construction project production and logistical requirements

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1310

**BILLETS:** Engineer Equipment Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a horizontal construction mission, resources, and references.

STANDARD: To develop project estimates in support of mission requirements.

### PERFORMANCE STEPS:

- 1. Conduct site reconnaissance.
- 2. Identify construction requirements.
- 3. Identify logistical requirements.
- 4. Identify environmental controls and natural resources considerations.
- 5. Formulate a resource logistical estimation.
- 6. Formulate a resource production estimate.

#### **REFERENCES:**

1. Appropriate Technical Manuals

- 2. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 3. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 4. MCRP 3-17.7F Project Management
- 5. MCRP 3-17.7G Military Soils Engineering
- 6. MCRP 3-17.7I Earthmoving Operations
- 7. MCRP 3-17A Engineering Field Data
- 8. MCRP 4-11.8A Marine Corps Field Feeding Program
- 9. MCRP 4-11A, Vol 1 CSS Field Reference Guide
- 10. MCWP 3-17 Engineering Operations
- 11. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 12. TM 3-34.55 Construction Surveying

1310-HORZ-2003: Validate project/operation schedule

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1310

BILLETS: Engineer Equipment Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a mission, a completed project/operation schedule and references.

**STANDARD:** To confirm that the required engineer resources and personnel are identified, the timeline conforms to mission specifications, and the graphic depiction of the schedule is accurate.

### PERFORMANCE STEPS:

- 1. Review the mission.
- 2. Verify activity estimate sheets.
- 3. Verify logical sequence of activities.
- 4. Verify critical path.
- 5. Review graphical depiction, if necessary.
- 6. Ensure schedule remains updated throughout the duration of the project/operation.

#### **REFERENCES:**

- 1. MCRP 3-17.7F Project Management
- 2. MCRP 3-17.7I Earthmoving Operations

1310-MANT-2001: Manage engineer equipment maintenance shop operations

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1310

BILLETS: Engineer Equipment Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a mission statement, a maintenance facility, resources and references.

**STANDARD:** To ensure maintenance facilities and procedures are established per the mission statement.

### PERFORMANCE STEPS:

- 1. Identify mission requirements.
- 2. Identify all maintenance resources.
- 3. Identify environmental and natural resource considerations.
- 4. Designate required maintenance shop areas.
- 5. Implement the maintenance production process.
- 6. Validate operational risk management procedures.
- 7. Implement shop safety programs.

#### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCO P4790.2\_ MIMMS Field Procedures Manual
- 3. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 4. TM 4700-15/1 Ground Equipment Record Procedures
- 5. Unit T/O&E Unit's Table of Organization and Equipment

1310-MANT-2002: Manage engineer equipment availability

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1310

BILLETS: Engineer Equipment Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

 $\underline{ ext{CONDITION}}$ : Provided a mission statement, maintenance facility, resources and the references.

 $\underline{\mathtt{STANDARD}}\colon$  To support the unit mission statement (TO/E) in accordance with MCO P4790.2\_.

# PERFORMANCE STEPS:

- 1. Review the references.
- 2. Validate urgency of need designator assignment codes.
- 3. Review maximum maintenance cycle time.
- 4. Develop plan to increase equipment availability.

- MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
   MCO P4790.1\_ Marine Corps Integrated Maintenance Management System (MIMMS) Introduction Manual
- 3. MCO P4790.2\_ MIMMS Field Procedures Manual

# ENG & UTIL T&R MANUAL

# CHAPTER 15

# MOS 1316 INDIVIDUAL EVENTS

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### ENG & UTIL T&R MANUAL

### CHAPTER 15

#### MOS 1316 INDIVIDUAL EVENTS

15000. PURPOSE. This chapter details the individual events that pertain to the Metal Worker. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful.

15001. EVENT CODING. Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX-XXXX. This chapter utilizes the following methodology.

a. Field one. This field represents the community. This chapter contains the following community codes:

| Code | Description |        |
|------|-------------|--------|
| 1316 | Metal       | Worker |

b. Field two. This field represents the functional/duty area. This chapter contains the following functional/duty areas:

| Code | <u>Description</u>  |
|------|---------------------|
| ADMN | Administration      |
| MANT | Maintenance         |
| XENG | General Engineering |

c. Field three. This field provides the level at which the event is accomplished and numerical sequencing of events. This chapter contains the following event levels:

| Code | Description      |
|------|------------------|
| 1000 | Core Skills      |
| 2000 | Core Plus Skills |

### 15002. INDEX OF INDIVIDUAL EVENTS

| EVENT CODE     | EVENT                                            | PAGE |  |
|----------------|--------------------------------------------------|------|--|
|                | 1000-LEVEL EVENTS                                |      |  |
| 1316-ADMN-1001 | Conduct safety inspection                        | 15-3 |  |
| 1316-ADMN-1002 | Complete records and forms                       | 15-4 |  |
| 1316-ADMN-1003 | Conduct inventory of tool sets, chests and kits  | 15-5 |  |
| 1316-MANT-1001 | Perform identification tests on metal            | 15-5 |  |
| 1316-MANT-1002 | Perform armor plate welding                      | 15-6 |  |
| 1316-XENG-1001 | Operate the Marine Corps tactical welding shop   | 15-7 |  |
| 1316-XENG-1002 | Weld metal using Gas Tungsten Arc Welding (GTAW) | 15-7 |  |
|                | equipment                                        |      |  |

| 1316-XENG-1003 | Weld metal using Shielded Metal Arc Welding (SMAW)       | 15-8  |
|----------------|----------------------------------------------------------|-------|
|                | equipment                                                |       |
| 1316-XENG-1004 | Weld metal using Gas Metal Arc Welding (GMAW)            | 15-9  |
|                | equipment                                                |       |
| 1316-XENG-1005 | Perform metal cutting                                    | 15-10 |
|                | 2000-LEVEL-EVENTS                                        |       |
| 1316-ADMN-2001 | Supervise welding operations                             | 15-11 |
| 1316-ADMN-2002 | Supervise welding shop inventory                         | 15-12 |
| 1316-ADMN-2003 | Review Maintenance Production Report (MPR)               | 15-12 |
| 1316-ADMN-2004 | Maintain layettes                                        | 15-13 |
| 1316-ADMN-2005 | Maintain a section calibration control program           | 15-14 |
| 1316-ADMN-2006 | Review service request and parts requirement             | 15-14 |
| 1316-ADMN-2007 | Complete commodity manager's modification control record | 15-15 |
| 1316-ADMN-2008 |                                                          | 15-15 |
|                | Maintain Pre-Expended Bins (PEB)                         |       |
| 1316-ADMN-2009 | Maintain publications library                            | 15-16 |
| 1316-ADMN-2010 | Maintain engineer equipment operator records and         | 15-16 |
|                | forms                                                    |       |
| 1316-ADMN-2011 | Administer engineer equipment licensing program          | 15-17 |
| 1316-XENG-2001 | Forge metal objects with oxyacetylene                    | 15-18 |
| 1316-XENG-2002 | Fabricate metal objects                                  | 15-18 |
| 1316-XENG-2003 | Weld metal using oxyacetylene equipment                  | 15-19 |
| 1316-XENG-2004 | Prepare estimations for project production and           | 15-20 |
|                | logistical requirements                                  |       |
| 1316-XENG-2005 | Identify engineer equipment capabilities                 | 15-20 |

### 15003. 1000-LEVEL EVENTS

1316-ADMN-1001: Conduct safety inspection

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1316

**BILLETS:** Welder

**GRADES:** PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided job site with working personnel and references.

STANDARD: To identify, annotate and correct deficiencies.

# PERFORMANCE STEPS:

- 1. Review the reference.
- 2. Observe job site personnel and activities.
- 3. Identify personal protective equipment.
- 4. Identify discrepancies in safety procedures.
- 5. Apply operational risk management.
- 6. Implement corrective action.

- 1. MCO 3500.27\_ Operational Risk Management (ORM)
- 2. MCO P4790.2\_ MIMMS Field Procedures Manual
- 3. NAVMC DIR 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Program Manual
- 4. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures
- 6. UNIT SOP Unit's Standing Operating Procedures

## SUPPORT REQUIREMENTS:

ROOMS/BUILDINGS: Classroom, welding annex or welding bay.

**EQUIPMENT:** Required equipment

MATERIAL: Required materials

1316-ADMN-1002: Complete records and forms

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

MOS PERFORMING: 1316

**BILLETS:** Welder

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided references, facilities, forms, personnel, tools and engineer equipment.

**STANDARD:** To meet mission requirements in accordance with job specifications.

# PERFORMANCE STEPS:

- 1. Review the references.
- 2. Initiate records and forms.
- 3. Complete records and forms.

#### **REFERENCES:**

- 1. MCO P4790.2\_ MIMMS Field Procedures Manual
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

#### SUPPORT REQUIREMENTS:

ROOMS/BUILDINGS: Welding Bay or office

**EQUIPMENT:** Required equipment

MATERIAL: Required equipment

NAVMC 3500.12B 22 Jan 2014

1316-ADMN-1003: Conduct inventory of tool sets, chests and kits

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1316

BILLETS: Welder

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided references.

**STANDARD:** To reconcile the inventory list for accountability and serviceability.

# PERFORMANCE STEPS:

- 1. Review references.
- 2. Conduct inventory.
- 3. Properly annotate inventory sheet.
- 4. Take corrective actions as required.

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 3. MCO P4790.2\_ MIMMS Field Procedures Manual
- 4. SL-3-11668A Components List for General Mechanics Tool Kit (GMTK)
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

ROOMS/BUILDINGS: Classroom, bay or equipment storage area

**EQUIPMENT:** Required equipment

1316-MANT-1001: Perform identification tests on metal

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1316

BILLETS: Welder

**GRADES:** PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided necessary tools, requirement and the references.

STANDARD: To ensure correct identification of material.

### PERFORMANCE STEPS:

- 1. Set up test equipment.
- 2. Conduct visual test, as required.
- 3. Conduct spark test, as required.
- 4. Conduct torch test, as required.
- 5. Determine metal type.

 $\overline{1.}$  TC 9-237 Welding Theory

#### SUPPORT REQUIREMENTS:

ROOMS/BUILDINGS: Classroom, welding annex or welding bay

EQUIPMENT: Required equipment for metal identification

MATERIAL: Personnel protective equipment and required metals

1316-MANT-1002: Perform armor plate welding

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

MOS PERFORMING: 1316

**BILLETS:** Welder

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided equipment, requirement and references.

STANDARD: To ensure equipment is operational.

# PERFORMANCE STEPS:

- 1. Review job specifications.
- 2. Perform operations checks and services.
- 3. Prepare armor for welding/repair.
- 4. Perform appropriate welding process, as required.
- 5. Perform the required welds.
- 6. Perform after operation checks and services.
- 7. Secure the equipment.

## PREREQUISITE EVENTS:

1316-XENG-1004 1316-XENG-1005 1316-XENG-1006

#### **REFERENCES:**

- 1. TC 9-237 Welding Theory
- 2. TM 08594A-25/1 Welding Procedures for Light Armored Vehicle

# **SUPPORT REQUIREMENTS:**

EQUIPMENT: Gas Arc Welding Machine

<u>MATERIAL</u>: Personnel protective equipment, required object or metals and required consumables.

1316-XENG-1001: Operate the Marine Corps tactical welding shop

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 1 month

MOS PERFORMING: 1316

BILLETS: Welder

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided equipment and references.

STANDARD: To ensure proper operation.

#### PERFORMANCE STEPS:

- 1. Initiate CONLOG (NAVMC 10524).
- 2. Perform operations checks and services.
- 3. Perform set up procedures as required.
- 4. Perform start up procedures, as required.
- 5. Operate equipment as required.
- 6. Perform shut down procedures, as required.
- 7. Perform stowing procedures, as required.
- 8. Perform after operational checks and services.
- 9. Complete operational records.

**PREREQUISITE EVENTS:** 1316-ADMN-1001

#### RELATED EVENTS:

| 1316-ADMN-1002   | 1316-ADMN-1003   | 1316-XENG-1002 |
|------------------|------------------|----------------|
| ISIO IIDIIN IOOD | 1310 110111 1003 | ISIO HENG IOOD |
| 1316-XENG-1004   | 1316-XENG-1005   | 1316-XENG-1006 |
| 1316-XENG-2003   |                  |                |

### **REFERENCES:**

- 1. TM 04055D-OI/1 MARINE CORPS TACTICAL WELDING SHOP (MCTWS)
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

#### SUPPORT REQUIREMENTS:

ROOMS/BUILDINGS: Welding bay

EQUIPMENT: Welding Machine and other required equipment

MATERIAL: Personnel protective equipment, required consumables, metals and

gases.

1316-XENG-1002: Weld metal using Gas Tungsten Arc Welding (GTAW) equipment

NAVMC 3500.12B 22 Jan 2014

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

MOS PERFORMING: 1316

BILLETS: Welder

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided a requirement, equipment and references.

STANDARD: To ensure equipment is operational.

### PERFORMANCE STEPS:

- 1. Review reference.
- 2. Review service request.
- 3. Review job specification.
- 4. Set up GTAW equipment.
- 5. Perform operations checks and services.
- 6. Prepare aluminum for welding, as required.
- 7. Prepare stainless steel for welding, as required.
- 8. Prepare titanium for welding, as required.
- 9. Prepare carbon steel for welding, as required.
- 10. Prepare cast steel for welding, as required.
- 11. Prepare cast iron for welding, as required.
- 12. Perform the required welds.
- 13. Perform after operations checks.
- 14. Secure the equipment.
- 15. Update service request.

### **REFERENCES:**

1. TC 9-237 Welding Theory

# SUPPORT REQUIREMENTS:

ROOMS/BUILDINGS: Classroom, welding annex or welding bay.

**EQUIPMENT:** Gas tungsten arc welding equipment

MATERIAL: Personnel protective equipment, required metals, gases and required consumables

1316-XENG-1003: Weld metal using Shielded Metal Arc Welding (SMAW) equipment

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

MOS PERFORMING: 1316

BILLETS: Welder

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

# INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided a requirement, equipment and references.

STANDARD: To ensure equipment is operational.

### PERFORMANCE STEPS:

- 1. Review reference.
- 2. Review service request.
- 3. Review job specification.
- 4. Set up SMAW equipment.
- 5. Perform operations checks and services.
- 6. Prepare aluminum for welding, as required.
- 7. Prepare stainless steel for welding, as required.
- 8. Prepare carbon steel for welding, as required.
- 9. Prepare cast steel for welding, as required.
- 10. Perform the required welds.
- 11. Perform after operations check.
- 12. Secure the equipment.
- 13. Update service request.

### **REFERENCES:**

1. TC 9-237 Welding Theory

## SUPPORT REQUIREMENTS:

**ROOMS/BUILDINGS:** Classroom, welding annex or welding bay

**EQUIPMENT:** Arc welding equipment

MATERIAL: Personnel protective equipment, required metals and required

consumables

1316-XENG-1004: Weld metal using Gas Metal Arc Welding (GMAW) equipment

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

MOS PERFORMING: 1316

**BILLETS:** Welder

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided a requirement, equipment and references.

STANDARD: To ensure equipment is operational.

### PERFORMANCE STEPS:

- 1. Review reference.
- 2. Review service request.
- 3. Review job specification.

- 4. Set up GMAW equipment.
- 5. Perform operations checks and services.
- 6. Prepare Aluminum for welding, as required.
- 7. Prepare carbon steel for welding, as required.
- 8. Perform the required welds.
- 9. Perform after operations checks.
- 10. Secure the equipment.
- 11. Update service request.

1. TC 9-237 Welding Theory

#### SUPPORT REQUIREMENTS:

ROOMS/BUILDINGS: Classroom, welding annex or welding bay.

EQUIPMENT: Gas metal arc welding equipment.

MATERIAL: Personnel protective equipment, required object or metals and required consumables.

1316-XENG-1005: Perform metal cutting

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

MOS PERFORMING: 1316

**BILLETS:** Welder

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a requirement, equipment and references.

STANDARD: To ensure equipment is operational.

# PERFORMANCE STEPS:

- 1. Review reference.
- 2. Review service request.
- 3. Review job specifications.
- 4. Set up cutting equipment.
- 5. Perform operations checks and services.
- 6. Prepare shear for cutting, as required.
- 7. Prepare Plasma Arc for cutting, as required
- 8. Prepare oxyacetylene for cutting, as required.
- 9. Prepare exothermic for cutting, as required.
- 10. Perform the required cuts.
- 11. Perform after operation checks.
- 12. Secure the equipment.
- 13. Update service request.

# 1. TC 9-237 Welding Theory

### SUPPORT REQUIREMENTS:

ROOMS/BUILDINGS: Classroom, welding annex or welding bay.

**EQUIPMENT:** Oxyfuel Equipment

MATERIAL: Personnel protective equipment, required metal and required

consumables

#### 15004. 2000-LEVEL EVENTS

1316-ADMN-2001: Supervise welding operations

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

MOS PERFORMING: 1316

BILLETS: Welder

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a requirement, equipment and references.

**STANDARD:** To ensure safe working conditions, proper techniques and job completion.

### PERFORMANCE STEPS:

- 1. Review reference.
- 2. Review service request.
- 3. Identify mission requirements.
- 4. Identify environmental and natural resource considerations.
- 5. Designate required maintenance shop areas.
- 6. Validate operational risk management procedures.
- 7. Implement the maintenance production process.
- 8. Implement shop safety programs.
- 9. Ensure product/process meets specifications.
- 10. Update service request(s), as required.

## **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO P4790.2\_ MIMMS Field Procedures Manual
- 3. TC 9-237 Welding Theory
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures

## SUPPORT REQUIREMENTS:

ROOMS/BUILDINGS: Welding bay/office

EQUIPMENT: Required equipment

MATERIAL: Required materials

1316-ADMN-2002: Supervise welding shop inventory

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

MOS PERFORMING: 1316

**BILLETS:** Welder

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided equipment, tools and references.

**STANDARD:** To reconcile inventory records for accountability and serviceability.

# PERFORMANCE STEPS:

- 1. Review references.
- 2. Supervise inventories, as required.
- 3. Identify missing items.
- 4. Document missing items.
- 5. Order missing items.

#### **REFERENCES:**

- 1. Appropriate Reference Materials
- 2. Local Standard Operating Procedures (SOP)

### SUPPORT REQUIREMENTS:

ROOMS/BUILDINGS: Welding bay/office

**EQUIPMENT:** Required equipment

**MATERIAL:** Required material

1316-ADMN-2003: Review Maintenance Production Report (MPR)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1316

**BILLETS:** Welder

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided GCSS-MC account and the references.

STANDARD: To ensure accuracy.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review MPR.
- 3. Identify discrepancies.
- 4. Initiate corrective action as required.

#### REFERENCES:

- 1. DLA Customer Assistance Handbook
- 2. GCSS\_MC Procedural Notice 3-11: Parts Requirement Task in Place of EROSL
- 3. GCSS-MC, User Productivity Kit (UPK)
- 4. GCSS-MC Handbook
- 5. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 6. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
- 7. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 8. MCO P4790.2\_ MIMMS Field Procedures Manual
- 9. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

ROOMS/BUILDINGS: Welding bay/office

EQUIPMENT: Required equipment

MATERIAL: Required materials

1316-ADMN-2004: Maintain layettes

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1316

**GRADES:** CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provide a service request, parts requirement, repair parts and

STANDARD: To ensure repair parts are kept in the appropriate layettes bin.

#### PERFORMANCE STEPS:

- 1. Review the references.
- 2. Receive repair parts.
- 3. Annotate parts requirement.
- 4. Place repair parts in appropriate layette.
- 5. Take corrective action, as required.
- 6. Maintain parts requirement in appropriate layettes.
- 7. Issue repair parts.

- 1. DLA Customer Assistance Handbook
- 2. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 3. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
- 4. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 5. MCO P4790.2\_ MIMMS Field Procedures Manual
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

1316-ADMN-2005: Maintain a section calibration control program

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1316

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a requirement, equipment, personnel and references.

**STANDARD:** To ensure equipment provides accurate test, measurement and diagnostic capabilities.

### PERFORMANCE STEPS:

- 1. Identify unit TMDE.
- 2. Audit calibration control records.
- 3. Submit TMDE for calibration.
- 4. Conduct annual TMDE requirements.
- 5. Determine serviceability of TMDE.
- 6. Dispose of calibration records.

### **REFERENCES:**

- 1. MCO P4733.1\_ Marine Corps TMDE Calibration and Maintenance Program
- 2. MCO P4790.2\_ MIMMS Field Procedures Manual
- 3. NAVMC 2761 Catalog of Publications
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures

1316-ADMN-2006: Review service request and parts requirement

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1316

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a requirement, data and references.

STANDARD: Per the references.

### PERFORMANCE STEPS:

- 1. Review the references.
- 2. Review equipment technical manual to obtain maintenance information.
- 3. Review required entries for service request.
- 4. Review tasks and parts requirements.

- 1. Appropriate Equipment Manual
- 2. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
- 3. TM 4700-15/1 Ground Equipment Record Procedures

1316-ADMN-2007: Complete commodity manager's modification control record

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1316

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided an item of engineer equipment, GGCSS-MC and the references.

STANDARD: To record equipment modifications.

### PERFORMANCE STEPS:

- 1. Review the references.
- 2. Examine equipment for modifications.
- 3. Validate required modification.

# REFERENCES:

- 1. Appropriate Equipment Manual
- 2. MCO P4790.2\_ MIMMS Field Procedures Manual
- 3. SL-1-2/SL-1-3 Index of Publications Stocked by the USMC
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures

1316-ADMN-2008: Maintain Pre-Expended Bins (PEB)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1316

**GRADES:** CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a requirement and the references.

STANDARD: To ensure bins are stocked and maintained for timely maintenance.

# PERFORMANCE STEPS:

1. Review the references.

- 2. Review PEB authorization letter.
- 3. Validate inventory.
- 4. Update records, as required.

- 1. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 2. MCO P4790.2\_ MIMMS Field Procedures Manual
- 3. UNIT SOP Unit's Standing Operating Procedures

1316-ADMN-2009: Maintain publications library

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1316

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided with Marine Corps approved software, technical publications, equipment related publications and the references.

STANDARD: To account for all publications in accordance with MCO P4790.2.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Conduct inventory as required.
- 3. Annotate discrepancies.
- 4. Take corrective actions as necessary.

### **REFERENCES:**

- 1. MCO 5215.1 Marine Corps Directives Management Program
- 2. MCO 5600.31\_ Marine Corps Printing and Publishing Regulations
- 3. MCO P4790.2\_ MIMMS Field Procedures Manual
- 4. MCO P5215.17\_ The Marine Corps Technical Publications System
- 5. NAVMC 2761 Catalog of Publications
- 6. PLMS V3 UG Publication Library Management System Version 3 Users Guide
- 7. SECNAV M-5210.2\_ Department of the Navy Standard Subject Identification Code (SSIC) Manual
- 8. TM 4700-15/1\_ Ground Equipment Record Procedures
- 9. UM MCPDS Marine Corps Publications Distribution System Users Manual

 $\underline{\textbf{1316-ADMN-2010}}$ : Maintain engineer equipment operator records and forms

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1316

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided engineer equipment, applicable forms and references.

STANDARD: To comply with record keeping procedures.

### PERFORMANCE STEPS:

- 1. Review the references.
- 2. Determine records/forms required.
- 3. Prepare the proper records/forms.
- 4. Maintain records/forms on file and/or submit as required.

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO 4790.2 MIMMS Field Procedures Manual
- 3. MCO P11262.2 Inspection, Testing, and Certification of Tactical Ground Load Lifting Equipment
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. UM 4790-5 MIMMS-AIS Field Maintenance Procedures

1316-ADMN-2011: Administer engineer equipment licensing program

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1316

BILLETS: License Examiner

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With personnel, documentation, licensing records and references.

STANDARD: Ensuring equipment operators are licensed.

# PERFORMANCE STEPS:

- 1. Review the references.
- 2. Determine operator licensing requirements.
- 3. Review equipment training and testing programs.
- 4. Review and approve/reject licensing applications/renewals.
- 5. Administer licensing tests.
- 6. Review completed OF 346.
- 7. Document licensing action.

- 1. MCO P4790.1\_ Marine Corps Integrated Maintenance Management System (MIMMS) Introduction Manual
- 2. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 3. TM 11275-15/4 Tactical Engineer Equipment Licensing Manual
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. UNIT SOP Unit's Standing Operating Procedures

1316-XENG-2001: Forge metal objects with oxyacetylene

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1316

BILLETS: Welder

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Provided a requirement, equipment and references.

STANDARD: To ensure desired properties are achieved.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Set up the equipment.
- 3. Perform before operation checks and services.
- 4. Prepare the material for forging.
- 5. Forge the material.
- 6. Ensure product/process meets specifications.
- 7. Perform after operations checks and services.
- 8. Secure the oxyacetylene equipment.
- 9. Update service request actions, as required.

### **REFERENCES:**

- 1. TC 9-237 Welding Theory
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

ROOMS/BUILDINGS: Welding bay

**EQUIPMENT:** Oxyfuel equipment

MATERIAL: Personnel protective equipment and required objects

1316-XENG-2002: Fabricate metal objects

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1316

**BILLETS:** Welder

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a requirement, equipment and references.

STANDARD: To ensure product meets requirements.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review service request.
- 3. Set up the equipment.
- 4. Perform before operations checks and services.
- 5. Review the specification for the project.
- 6. Prepare the material for fabrication.
- 7. Perform the required fabrication.
- 8. Ensure product/process meets specifications.
- 9. Perform after operations checks.
- 10. Secure the equipment.
- 11. Update service request actions, as required.

#### **REFERENCES:**

1. TC 9-237 Welding Theory

### SUPPORT REQUIREMENTS:

ROOMS/BUILDINGS: Welding bay

EQUIPMENT: Required welding and cutting equipment

MATERIAL: Personnel protective equipment, required metals and gases,

required consumables, required drawing and/or blueprints.

1316-XENG-2003: Weld metal using oxyacetylene equipment

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

MOS PERFORMING: 1316

BILLETS: Welder

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided a requirement, equipment and references.

STANDARD: To ensure equipment is operational.

#### PERFORMANCE STEPS:

- 1. Review reference.
- 2. Review service request.
- 3. Review job specifications.
- 4. Set up oxyacetylene equipment.
- 5. Perform operation checks and services.
- 6. Prepare sheet metal for welding, as required.
- 7. Prepare carbon steel for welding, as required.
- 8. Prepare cast steel for welding, as required.
- 9. Prepare cast iron for welding, as required.

- 10. Perform required welds.
- 11. Perform after operations checks and services.
- 12. Secure the equipment.
- 13. Update service request.

1. TC 9-237 Welding Theory

#### SUPPORT REQUIREMENTS:

ROOMS/BUILDINGS: Classroom, welding annex or welding bay.

**EQUIPMENT:** Oxyfuel equipment

MATERIAL: Personnel protective equipment, required metals and required

consumables

 ${\color{red} \underline{\textbf{1316-XENG-2004}}}$ : Prepare estimations for project production and logistical

requirements

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1316

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a horizontal construction mission, resources and

references.

STANDARD: To support mission requirements.

# PERFORMANCE STEPS:

- 1. Identify weight of a specified volume of soil.
- 2. Calculate the maximum load volume and weight.
- 3. Calculate required production rates.
- 4. Calculate the time requirement for mission completion.
- 5. Identify logistical requirements to support a mission.

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. FM 5-434 Earthmoving Operations
- 3. TM 10629-10D Truck, Dump, 7-ton, MK29/ MK30
- 4. TM 11412A-OR Operator's Manual 624KR Loader
- 5. TM 11503A-OR 850 JR Crawler Dozer

1316-XENG-2005: Identify engineer equipment capabilities

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: CPL, SGT, SSGT

# INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided engineer equipment, available resources and references.

STANDARD: To support engineer operations per the references.

### PERFORMANCE STEPS:

- 1. Identify Engineer Equipment assets.
- 2. Identify material handling equipment capabilities.
- 3. Identify earth moving equipment capabilities.
- 4. Identify general support engineer equipment capabilities.
- 5. Select engineer equipment assets required.

- 1. Appropriate Technical Manuals
- 2. FM 5-434 Earthmoving Operations
- 3. MCO 3500.27\_ Operational Risk Management (ORM)
- 4. MCRP 3-17A Engineer Field Data
- 5. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 6. TM 5-3805-248-14&P-3 Technical Manual; Maintenance, Earth, Scraper

# ENG & UTIL T&R MANUAL

# CHAPTER 16

# MOS 1341 INDIVIDUAL EVENTS

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### ENG & UTIL T&R MANUAL

#### CHAPTER 16

#### MOS 1341 INDIVIDUAL EVENTS

16000. PURPOSE. This chapter details the individual events that pertain to the Engineer Equipment Mechanic. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful.

16001. EVENT CODING. Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX-XXXX. This chapter utilizes the following methodology

a. Field one. This field represents the community. This chapter contains the following community codes:

b. Field two. This field represents the functional/duty area. This chapter contains the following functional/duty areas:

Code Description
ADMN Administration
MANT Maintenance

c. Field three. This field provides the level at which the event is accomplished and numerical sequencing of events. This chapter contains the following event levels:

## 16002. INDEX OF INDIVIDUAL EVENTS

| EVENT CODE     | EVENT                                            | PAGE |
|----------------|--------------------------------------------------|------|
|                | 1000-LEVEL EVENTS                                |      |
| 1341-ADMN-1001 | Conduct Shop Operations                          | 16-3 |
| 1341-ADMN-1002 | Conduct inventory of tool sets, chests, and kits | 16-4 |
| 1341-MANT-1001 | Use test measurement and diagnostic equipment    | 16-5 |
| 1341-MANT-1002 | Perform corrective maintenance on engineer       | 16-5 |
|                | equipment                                        |      |
| 1341-MANT-1003 | Repair equipment electrical system               | 16-5 |
| 1341-MANT-1004 | Repair equipment intake/exhaust system           | 16-6 |
| 1341-MANT-1005 | Repair equipment fuel system                     | 16-7 |
| 1341-MANT-1006 | Repair equipment coolant system                  | 16-7 |

| 1341-MANT-1007 | Repair equipment engine assembly                 | 16-8  |
|----------------|--------------------------------------------------|-------|
| 1341-MANT-1008 | Repair equipment hydraulic system                | 16-8  |
| 1341-MANT-1009 | Repair equipment brake system                    | 16-9  |
| 1341-MANT-1010 | Adjust equipment power train components          | 16-9  |
|                | 2000-LEVEL EVENTS                                |       |
| 1341-ADMN-2001 | Maintain publications library                    | 16-10 |
| 1341-ADMN-2002 | Supervise inventory of tool sets, chests, and    | 16-10 |
|                | kits                                             |       |
| 1341-ADMN-2003 | Complete engineer equipment records and forms    | 16-11 |
| 1341-ADMN-2004 | Review service request and parts requirement     | 16-11 |
| 1341-ADMN-2005 | Complete commodity manager's modification        | 16-12 |
|                | control record                                   |       |
| 1341-ADMN-2006 | Maintain a section calibration control program   | 16-12 |
| 1341-ADMN-2007 | Maintain Pre-Expended Bins (PEB)                 | 16-13 |
| 1341-ADMN-2008 | Maintain layettes                                | 16-13 |
| 1341-MANT-2001 | Perform advance use of test measurement and      | 16-14 |
|                | diagnostic equipment (TMDE)                      |       |
| 1341-MANT-2002 | Conduct advanced repair to equipment electrical  | 16-15 |
|                | system                                           |       |
| 1341-MANT-2003 | Conduct advanced repair to equipment             | 16-15 |
|                | intake/exhaust system                            |       |
| 1341-MANT-2004 | Conduct advanced repair to equipment fuel system | 16-16 |
| 1341-MANT-2005 | Conduct advanced repair of coolant system        | 16-16 |
| 1341-MANT-2006 | Repair a diesel engine                           | 16-17 |
| 1341-MANT-2007 | Conduct advanced repair to equipment hydraulic   | 16-17 |
|                | system                                           |       |
| 1341-MANT-2008 | Perform advanced repair on a power train system  | 16-18 |
| 1341-MANT-2009 | Repair an engineer equipment air conditioner     | 16-18 |
|                | malfunction                                      |       |
| 1341-MANT-2010 | Perform preventive maintenance                   | 16-19 |
| 1341-MANT-2011 | Install protective armor kit on the engineer     | 16-19 |
|                | equipment                                        |       |
| 1341-MANT-2012 | Perform installation/removal of Medium Crawler   | 16-20 |
|                | Tractor (MCT) attachments                        |       |
| 1341-MANT-2013 | Replace cutting edge/teeth on engineer equipment | 16-20 |

### 16003. 1000-LEVEL EVENTS

1341-ADMN-1001: Conduct Shop Operations

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1341

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided references, maintenance facility, maintenance forms, personnel, tools, and engineer equipment.

STANDARD: To maintain unit readiness without injury to personnel or damage

to equipment.

#### PERFORMANCE STEPS:

- 1. Apply operational risk management.
- 2. Select appropriate technical manuals.
- 3. Complete tasks to be performed during the acceptance phase.
- 4. Complete tasks to be performed during induction phase.
- 5. Complete tasks to be performed during maintenance phase.
- 6. Complete tasks to be performed during closeout phase.

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 3. MCO 3500.27\_ Operational Risk Management (ORM)
- 4. MCO P4790.2\_ MIMMS Field Procedures Manual
- 5. NAVMC 10772 RECOMMENDED CHANGE TO TECHNICAL PUBLICATION
- 6. SL-3-11668A Components List for General Mechanics Tool Kit (GMTK)
- 7. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
- 8. TM 10510-OD/1\_ General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Support Items & Tool Kits)
- 9. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 10. TM 4700-15/1\_ Ground Equipment Record Procedures

1341-ADMN-1002: Conduct inventory of tool sets, chests, and kits

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1341

**GRADES:** PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided references.

**STANDARD:** To reconcile inventory records for accountability and serviceability.

# PERFORMANCE STEPS:

- 1. Review References
- 2. Conduct inventory
- 3. Properly annotate inventory sheet.
- 4. Take corrective actions as required.

- 1. Appropriate Technical Manuals
- 2. MCO P4790.2\_ MIMMS Field Procedures Manual
- 3. SL-3-11668A Components List for General Mechanics Tool Kit (GMTK)
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures

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1341-MANT-1001: Use test measurement and diagnostic equipment

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1341

GRADES: PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided test measurement and diagnostic equipment (TMDE), appropriate tools, an item of equipment, and the references.

STANDARD: To diagnose engineer equipment faults.

### PERFORMANCE STEPS:

- 1. Review the references.
- 2. Determine appropriate system checks.
- 3. Perform the system check.
- 4. Identify applicable preventive maintenance services.

### REFERENCES:

1. Appropriate Technical Manuals

1341-MANT-1002: Perform corrective maintenance on engineer equipment

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1341

GRADES: PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided service request, appropriate tools, equipment records, and references.

STANDARD: To return equipment to serviceable condition.

## PERFORMANCE STEPS:

- 1. Review the references.
- 2. Review service request.
- 3. Perform applicable corrective maintenance services.
- 4. Document maintenance actions.

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

1341-MANT-1003: Repair equipment electrical system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1341

GRADES: PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a service request, malfunctioning electrical system, appropriate tools, and references.

STANDARD: To restore system to proper function.

#### PERFORMANCE STEPS:

- 1. Review service request.
- 2. Review references.
- 3. Diagnose malfunction.
- 4. Initiate parts requirement, if necessary.
- 5. Repair/replace unserviceable part(s).
- 6. Test repaired system.
- 7. Document maintenance actions.

# REFERENCES:

- 1. Appropriate Technical Manuals
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

1341-MANT-1004: Repair equipment intake/exhaust system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1341

GRADES: PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a service request, malfunctioning intake/exhaust system, appropriate tools, and references.

STANDARD: To restore system to proper function.

## PERFORMANCE STEPS:

- 1. Review the service request.
- 2. Review the references.
- 3. Diagnose malfunction.
- 4. Initiate parts requirement, if necessary.
- 5. Repair/replace unserviceable part(s).
- 6. Test repaired system.
- 7. Document maintenance actions.

- 1. Appropriate Technical Manuals
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

1341-MANT-1005: Repair equipment fuel system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1341

GRADES: PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided a service request, malfunctioning fuel system, appropriate tools, and references.

STANDARD: To restore system to proper function.

### PERFORMANCE STEPS:

- 1. Review service request.
- 2. Review references.
- 3. Diagnose malfunction.
- 4. Initiate parts requirement, if necessary.
- 5. Repair/replace unserviceable part(s).
- 6. Test repaired system.
- 7. Document maintenance action.

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

1341-MANT-1006: Repair equipment coolant system

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1341

**GRADES:** PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided a service request, malfunctioning coolant system, appropriate tools, and references.

STANDARD: To restore system to proper function.

#### PERFORMANCE STEPS:

- 1. Review service request.
- 2. Review references.
- 3. Diagnose malfunction.
- 4. Initiate parts requirement, if necessary.
- 5. Repair/replace unserviceable part(s).
- 6. Test repaired system.
- 7. Document maintenance action.

1. Appropriate Technical Manuals

2. TM 4700-15/1\_ Ground Equipment Record Procedures

1341-MANT-1007: Repair equipment engine assembly

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1341

GRADES: PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided a service request, malfunctioning engine assembly, appropriate tools, and references.

STANDARD: To restore system to proper function.

### PERFORMANCE STEPS:

- 1. Review service request.
- 2. Review References.
- 3. Diagnose malfunction.
- 4. Initiate parts requirement, if necessary.
- 5. Adjust, or repair unserviceable part(s).
- 6. Test repaired system.
- 7. Document maintenance actions.
- 8. Test repaired system.
- 9. Document maintenance actions.

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

1341-MANT-1008: Repair equipment hydraulic system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1341

**GRADES:** PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a service request, malfunctioning hydraulic system, appropriate tools, and references.

STANDARD: To restore system to proper function.

# PERFORMANCE STEPS:

- 1. Review service request.
- 2. Review references.
- 3. Diagnose malfunction.

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- 4. Initiate parts requirement, if necessary.
- 5. Repair/replace unserviceable part(s).
- 6. Test repaired system.
- 7. Document maintenance actions.

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

1341-MANT-1009: Repair equipment brake system

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1341

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a service request, brake system, appropriate tools, and references.

STANDARD: To restore system to proper function.

### PERFORMANCE STEPS:

- 1. Review service request.
- 2. Review references.
- 3. Diagnose malfunction.
- 4. Initiate parts requirement, if necessary.
- 5. Repair/replace unserviceable part(s).
- 6. Test repaired system.
- 7. Document maintenance actions.

## REFERENCES:

- 1. Appropriate Technical Manuals
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

1341-MANT-1010: Adjust equipment power train components

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1341

**GRADES:** PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a service request, malfunctioning power train system, appropriate tools, and references.

STANDARD: To restore system to proper function.

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## PERFORMANCE STEPS:

- 1. Review the service request.
- 2. Review references.
- 3. Diagnose malfunction.
- 4. Perform necessary repairs.
- 5. Test repaired system.
- 6. Document maintenance actions.

#### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

### 16004. 2000-LEVEL EVENTS

1341-ADMN-2001: Maintain publications library

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1341

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provide with Marine Corps currently approved computer based programs, technical publications, equipment related publications, and the references.

STANDARD: To account for all publications IAW MCO P4790.2\_.

## PERFORMANCE STEPS:

- 1. Review references.
- 2. Conduct inventory as required.
- 3. Annotate discrepancies.
- 4. Take corrective actions, as necessary.

## **REFERENCES:**

- 1.  $\mbox{MCO 5215.1}_{\mbox{\ }}\mbox{\ }\mbox{Marine Corps Directives Management Program}$
- 2. MCO 5600.31 Marine Corps Printing and Publishing Regulations
- 3. MCO P4790.2\_ MIMMS Field Procedures Manual
- 4. MCO P5215.17\_ The Marine Corps Technical Publications System
- 5. NAVMC 2761 Catalog of Publications
- 6. PLMS V3 UG Publication Library Management System Version 3 Users Guide
- 7. SECNAV M-5210.2\_ Department of the Navy Standard Subject Identification Code (SSIC) Manual
- 8. TM 4700-15/1\_ Ground Equipment Record Procedures
- 9. UM MCPDS Marine Corps Publications Distribution System Users Manual

 $\underline{\textbf{1341-ADMN-2002}}$ : Supervise inventory of tool sets, chests, and kits

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1341

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given the requirement and the references.

**STANDARD:** To reconcile inventory records for accountability and serviceability.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Supervise inventories, as required.
- 3. Verify missing/unserviceable items are documented.
- 4. Ensure missing/unserviceable items are requisitioned.

## **REFERENCES:**

- 1. Appropriate Reference Materials
- 2. Local Standard Operating Procedures (SOP)
- 3. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 4. MCO P4790.2\_ MIMMS Field Procedures Manual
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures

1341-ADMN-2003: Complete engineer equipment records and forms

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**GRADES:** CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided engineer equipment and references.

**STANDARD:** To support mission requirements

## PERFORMANCE STEPS:

- 1. Review the references.
- 2. Determine records/forms required.
- 3. Prepare the proper records/forms.
- 4. Maintain records/forms, as required.

### **REFERENCES:**

- 1. MCO P4790.2\_ MIMMS Field Procedures Manual
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures
- 3. UM 4790-5 MIMMS-AIS Field Maintenance Procedures

1341-ADMN-2004: Review service request and parts requirement.

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1341

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a requirement, data, and the references.

STANDARD: Per the references.

# PERFORMANCE STEPS:

- 1. Review the references.
- 2. Review equipment technical manual to obtain maintenance information.
- 3. Review required entries for service request.
- 4. Review tasks and parts requirements.

#### **REFERENCES:**

- 1. Appropriate Equipment Manual
- 2. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures

1341-ADMN-2005: Complete commodity manager's modification control record

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1341

**GRADES:** CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided an item of engineer equipment and the references.

STANDARD: To record equipment modifications.

## PERFORMANCE STEPS:

- 1. Review the references.
- 2. Examine equipment for modifications.
- 3. Validate required modification.

## **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO P4790.2\_ MIMMS Field Procedures Manual
- 3. SL-1-2/SL-1-3 Index of Publications Stocked by the USMC
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures

1341-ADMN-2006: Maintain a section calibration control program

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1341

GRADES: CPL, SGT, SSGT

## INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a requirement, equipment, personnel, and references.

**STANDARD:** To ensure equipment provides accurate test, measurement, and diagnostic capabilities.

## PERFORMANCE STEPS:

- 1. Identify unit TMDE.
- 2. Audit calibration control records.
- 3. Submit TMDE for calibration.
- 4. Conduct annual TMDE requirements.
- 5. Determine serviceability of TMDE.
- 6. Dispose of calibration records.

### **REFERENCES:**

- 1. MCO P4733.1\_ Marine Corps TMDE Calibration and Maintenance Program
- 2. MCO P4790.2\_ MIMMS Field Procedures Manual
- 3. NAVMC 2761 Catalog of Publications
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures

1341-ADMN-2007: Maintain Pre-Expended Bins (PEB)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1341

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETT\_ING: FORMAL

**CONDITION:** Given a requirement and the references.

STANDARD: To ensure bins are stocked and maintained for timely maintenance.

### PERFORMANCE STEPS:

- 1. Review the reference.
- 2. Review PEB authorization letter.
- 3. Validate inventory.
- 4. Update records, as required.

#### **REFERENCES:**

- 1. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 2. MCO P4790.2\_ MIMMS Field Procedures Manual
- 3. UNIT SOP Unit's Standing Operating Procedures

1341-ADMN-2008: Maintain layettes

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1341

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provide a service request, parts requirement, repair parts, and the references.

STANDARD: To ensure repair parts are kept in the appropriate layettes bin.

#### PERFORMANCE STEPS:

- 1. Review the references.
- 2. Receive repair parts, annotate parts requirement, and place repair parts in appropriate layette.
- 3. Take corrective action if repair part does not match parts requirement.
- 4. Maintain parts requirement in the appropriate layettes.
- 5. Issue repair parts, and annotate parts requirement.

## **REFERENCES:**

- 1. DLA Customer Assistance Handbook
- 2. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 3. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
- 4. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 5. MCO P4790.2\_ MIMMS Field Procedures Manual
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures
- 7. UM 4400-124 SASSY Using Unit Procedures
- 8. UM 4790-5 Users Manual MIMMS

1341-MANT-2001: Perform advance use of test measurement and diagnostic equipment (TMDE)

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1341

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a requirement, appropriate tools, an item of equipment, and the references.

STANDARD: To diagnose advanced level engineer equipment faults.

### PERFORMANCE STEPS:

- 1. Review the references.
- 2. Determine the appropriate system check.
- 3. Perform the system check.
- 4. Identify applicable preventive and corrective maintenance services.

- 1. Appropriate Equipment Manual
- 2. Applicable technical references

1341-MANT-2002: Conduct advanced repair to equipment electrical system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1341

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided a service request, malfunctioning electrical system, appropriate tools, and references.

**STANDARD:** To restore system to proper function.

## PERFORMANCE STEPS:

- 1. Review service request.
- 2. Review references.
- 3. Diagnose malfunction.
- 4. Initiate parts requirement, if necessary.
- 5. Repair/replace unserviceable part(s).
- 6. Test repaired system.
- 7. Document maintenance actions.

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

1341-MANT-2003: Conduct advanced repair to equipment intake/exhaust system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1341

**GRADES:** CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a service request, malfunctioning intake/exhaust system, appropriate tools, and references.

STANDARD: To restore proper equipment function.

### PERFORMANCE STEPS:

- 1. Review service request.
- 2. Review the references.
- 3. Diagnose the malfunction.
- 4. Initiate parts requirement, if necessary.
- 5. Repair/replace unserviceable part(s).
- 6. Test repaired system.
- 7. Document maintenance actions.

- 1. Applicable technical references
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

1341-MANT-2004: Conduct advanced repair to equipment fuel system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1341

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided a service request, malfunctioning fuel system, appropriate tools, and references.

STANDARD: To restore system to proper function.

### PERFORMANCE STEPS:

- 1. Review service request.
- 2. Review the references.
- 3. Diagnose malfunction.
- 4. Initiate parts requirement, if necessary.
- 5. Repair/replace unserviceable part(s).
- 6. Test repaired system.
- 7. Document maintenance action.

## **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

1341-MANT-2005: Conduct advanced repair of coolant system

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1341

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a service request, malfunctioning coolant system, appropriate tools/test equipment, and references.

**STANDARD:** To restore system to proper function.

### PERFORMANCE STEPS:

- 1. Review the reference.
- 2. Diagnose the fault.
- 3. Initiate parts requirement, if necessary.
- 4. Service the system, as required.
- 5. Test the repairs.

6. Document the repairs.

## **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

1341-MANT-2006: Repair a diesel engine

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1341

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a service request, a malfunctioning diesel engine, appropriate tools and equipment, and the references.

STANDARD: To restore engine to proper function.

### PERFORMANCE STEPS:

- 1. Review the references.
- 2. Review service request.
- 3. Disassemble/remove parts to be replaced.
- 4. Initiate parts requirement, if necessary.
- 5. Replace Parts.
- 6. Assemble engine.
- 7. Test repaired engine.
- 8. Document maintenance action.

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

1341-MANT-2007: Conduct advanced repair to equipment hydraulic system

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1341

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a service request, malfunctioning hydraulic system, appropriate tools, and references.

**STANDARD:** To restore system to proper function.

## PERFORMANCE STEPS:

1. Review service request.

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- 2. Review references.
- 3. Diagnose malfunction.
- 4. Initiate parts requirement, if necessary.
- 5. Repair/replace unserviceable part(s).
- 6. Test repaired system.
- 7. Document maintenance actions.

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

1341-MANT-2008: Perform advanced repair on a power train system

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1341

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a service request, malfunctioning power train system, appropriate tools, and references.

STANDARD: To restore system to proper function.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review service request.
- 3. Diagnose malfunction.
- 4. Disassemble/remove parts to be replaced.
- 5. Initiate parts requirement, if necessary.
- 6. Replace parts, as necessary.
- 7. Assemble system.
- 8. Test repaired equipment.
- 9. Adjust system.
- 10. Document maintenance actions.

## **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

1341-MANT-2009: Repair an engineer equipment air conditioner malfunction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1341

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a service request, malfunctioning air conditioner, appropriate tools/test equipment, and references.

**STANDARD:** To restore system to proper function.

## PERFORMANCE STEPS:

- 1. Review the reference.
- 2. Diagnose the fault.
- 3. Recover the refrigerant (if needed).
- 4. Initiate parts requirement, if necessary.
- 5. Service the system, as required.
- 6. Recharge the system (if needed).
- 7. Test the repairs.
- 8. Document the repairs.

## **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. 124048 (Rev. D) SPX Robinair Operating Manual Model 17800B/17801B
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures

1341-MANT-2010: Perform preventive maintenance

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1341

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Provided a service request, item of equipment, applicable tools, equipment records, and references.

STANDARD: To meet maintenance requirements.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review service request.
- 3. Perform applicable preventive maintenance services.
- 4. Initiate parts requirement, if required.
- 5. Document maintenance actions.

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

1341-MANT-2011: Install protective armor kit on the engineer equipment

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1341

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Provided a service request, protective armor kit for engineer equipment, appropriate tools, and references.

STANDARD: In order to accomplish mission, in support of commander's intent.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review the service request.
- 3. Identify locations of plates/assemblies on equipment
- 4. Install/uninstall plates/assemblies, as required
- 5. Check plates to ensure proper fit.

### **REFERENCES:**

- 1. Appropriate Equipment Manual
- 2. Appropriate Technical Manuals

<u>1341-MANT-2012</u>: Perform installation/removal of Medium Crawler Tractor (MCT) attachments

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1341

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With a MCT, attachments, tools, and the reference.

**STANDARD:** To ensure safe installation with no injury to personnel or damage to the equipment.

## PERFORMANCE STEPS:

- 1. Review the references.
- 2. Prepare tractor for attachments.
- 3. Install/uninstall the attachments.
- 4. Perform operator checks and services, as necessary.

### **REFERENCES:**

1. TM 11503A-OR 850 JR Crawler Dozer

1341-MANT-2013: Replace cutting edge/teeth on engineer equipment

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1341

GRADES: PVT, PFC, LCPL

# INITIAL TRAINING SETTING: MOJT

**CONDITION:** Provided an item of engineer equipment, cutting edges/teeth, appropriate tools, and the references.

STANDARD: To restore equipment to full operational condition.

## PERFORMANCE STEPS:

- 1. Review service request.
- 2. Review references
- 3. Ensure old cutting edge/teeth is/are removed.
- 4. Ensure the new cutting edge/teeth is/are safely installed.
- 5. Document Maintenance action.

## **REFERENCES:**

1. Appropriate Technical Manuals

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# CHAPTER 17

# MOS 1342 INDIVIDUAL EVENTS

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## ENG & UTIL T&R MANUAL

### CHAPTER 17

### MOS 1342 INDIVIDUAL EVENTS

- 17000. PURPOSE. This chapter details the individual events that pertain to Engineer Small Craft Mechanic. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful.
- 17001. EVENT CODING. Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX-XXXX. This chapter utilizes the following methodology:
- a. Field one. This field represents the community. This chapter contains the following community codes:

b. Field two. This field represents the functional/duty area. This chapter contains the following functional/duty areas:

<u>Code</u> <u>Description</u> MANT Maintenance

c. Field three. This field provides the level at which the event is accomplished and numerical sequencing of events. This chapter contains the following event levels:

 $\frac{\text{Code}}{1000}$   $\frac{\text{Description}}{\text{Core Skills}}$ 

## 17002. INDEX OF INDIVIDUAL EVENTS

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| 1342-MANT-1001    | Perform outboard motor preventive maintenance      | 17-3 |
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| 1342-MANT-1007    | Perform bridge boat corrective maintenance         | 17-7 |
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| 1342-MANT-1010    | Conduct Limited Technical Inspection (LTI)         | 17-9 |

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17003. 1000-LEVEL EVENTS

1342-MANT-1001: Perform outboard motor preventive maintenance

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1342

BILLETS: Small Craft Mechanic

GRADES: LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided service request, applicable tools, supplies, parts, equipment records, and references.

STANDARD: To meet maintenance requirements established in technical manuals.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review service request.
- 3. Perform applicable preventive maintenance checks and services.
- 4. Initiate parts procurement, if required.
- 5. Replace parts, if required.
- 6. Document maintenance actions.

#### **REFERENCES:**

- 1. Applicable technical references
- 2. P/N 5007808 Commercial MFE Technical Manual
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures
- 4. TM 8L137B-OI-P Non-Gasoline Burning Outboard Engine (NBOE)
- 5. UM 4000-125 Retail Supply and Maintenance Execution Procedures

## SUPPORT REQUIREMENTS:

EQUIPMENT: Outboard Engine Maintenance Kit, Diagnostic Kit

1342-MANT-1002: Perform small craft preventive maintenance

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1342

**BILLETS:** Small Craft Mechanic

GRADES: LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided service request, applicable tools, supplies, parts, equipment records, and references.

STANDARD: To meet maintenance requirements established in technical manuals.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review service request.
- 3. Perform applicable preventive maintenance checks and services.
- 4. Initiate parts procurement, if required.
- 5. Replace parts, if required.
- 6. Document maintenance actions.

### **REFERENCES:**

- 1. Applicable technical references
- 2. TM 09665B-13&P 2 Operation and Maintenance Instructions w/Component and Repair Parts Listing for Combat Rubber Reconnaissance Craft
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures
- 4. UM 4000-125 Retail Supply and Maintenance Execution Procedures

1342-MANT-1003: Perform bridge boat preventive maintenance

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1342

BILLETS: Small Craft Mechanic

GRADES: LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided service request, applicable tools, supplies, parts, equipment records, and references.

STANDARD: To meet maintenance requirements established in technical manuals.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review service request.
- 3. Perform applicable preventive maintenance checks and services.
- 4. Initiate parts procurement, if required.
- 5. Document maintenance actions.
- 6. Replace parts, if required.

- 1. Applicable technical references
- TM 10020C-IN Field Maintenance Manual for Boat, Bridge Erection, Twin Jet, Aluminum Hull (w/Cradle and Trailer)
- 3. TM 10020C-OI \_ Boat, Bridge Erection Twin Jet, Aluminum Hull (Model MK III)
- 4. TM 10020C-OR 38 BEB MKIII Parts Catalog
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures
- 6. UM 4000-125 Retail Supply and Maintenance Execution Procedures

## SUPPORT REQUIREMENTS:

**EQUIPMENT:** Fast Lube Oil Change System (FLOCS), Alignment tool

1342-MANT-1004: Perform small craft trailer preventive maintenance

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1342

BILLETS: Small Craft Mechanic

GRADES: LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided service request, item of equipment, applicable tools, supplies, parts, equipment records, and references.

STANDARD: To meet maintenance requirements established in technical manuals.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review service request.
- 3. Perform applicable preventive maintenance checks and services.
- 4. Initiate parts procurement, if required.
- 5. Replace parts, if required.
- 6. Document maintenance actions.

## **REFERENCES:**

- 1. Applicable technical references
- 2. OEM Boat Master Aluminum Trailer Owner's Manual
- 3. OEM\_ Float-On-Trailer Owner's Manual
- 4. TM 10020C-OI \_ Boat, Bridge Erection Twin Jet, Aluminum Hull (Model MK III)
- 5. TM 11140-OR 1 BEB-263-15 TRLR
- 6. TM 4700-15/1 Equipment Record Procedures
- 7. TM 4700-15/1 Ground Equipment Record Procedures
- 8. TM10020C-IN\_ BEB-Cradle-Trlr
- 9. UM 4000-125 Retail Supply and Maintenance Execution Procedures

1342-MANT-1005: Perform outboard motor corrective maintenance

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1342

BILLETS: Small Craft Mechanic

GRADES: LCPL, CPL, SGT, SSGT

## INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided service request, appropriate tools, equipment records, supplies, required parts, and references.

STANDARD: To return equipment to serviceable condition.

### PERFORMANCE STEPS:

- 1. Review the references.
- 2. Review service request.
- 3. Diagnose malfunctions.
- 4. Obtain required parts, if required.
- 5. Repair electrical system, if required.
- 6. Repair fuel system, if applicable.
- 7. Repair power head, if applicable.
- 8. Repair gear case, if applicable.
- 9. Repair cooling system, if applicable.
- 10. Repair oiling system, if applicable.
- 11. Repair manual starter, if applicable.
- 12. Test equipment.
- 13. Document maintenance actions.

### **REFERENCES:**

- 1. Applicable technical references
- 2. P/N 5007808 Commercial MFE Technical Manual
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures
- 4. TM 8L137B-OI-P Non-Gasoline Burning Outboard Engine (NBOE)
- 5. UM 4000-125 Retail Supply and Maintenance Execution Procedures

## SUPPORT REQUIREMENTS:

EQUIPMENT: Outboard Engine Maintenance Kit

1342-MANT-1006: Perform small craft corrective maintenance

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1342

BILLETS: Small Craft Mechanic

GRADES: LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided service request, appropriate tools, supplies, parts, equipment records, and references.

**STANDARD:** To return equipment to serviceable condition.

## PERFORMANCE STEPS:

1. Review references.

- 2. Review service request.
- 3. Perform leak test on components, if required.
- 4. Repair/replace valves and rings, if required.
- 5. Repair hull fabric, if required.
- 6. Repair/replace carry handles, if required.
- 7. Apply latex to buoyancy and keel tubes, if required.
- 8. Repair/replace rub strake, if required.
- 9. Repair/replace thrust board, if required.
- 10. Test equipment as required.
- 11. Document maintenance actions.

#### **REFERENCES:**

- 1. Applicable technical references
- 2. TM 09665B-10A/1 Combat Rubber Reconnaissance Craft Field Service Manual
- 3. TM 09665B-13&P 2 Operation and Maintenance Instructions w/Component and Repair Parts Listing for Combat Rubber Reconnaissance Craft
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. UM 4000-125 Retail Supply and Maintenance Execution Procedures

1342-MANT-1007: Perform bridge boat corrective maintenance

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1342

BILLETS: Small Craft Mechanic

GRADES: LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided service request, appropriate tools, supplies, parts, equipment records, and references.

STANDARD: To return equipment to serviceable condition.

# PERFORMANCE STEPS:

- 1. Review the references.
- 2. Review service request.
- 3. Diagnose malfunctions.
- 4. Repair fuel system, if required.
- 5. Repair air intake/exhaust system, if required.
- 6. Repair cooling system, if required.
- 7. Repair electrical system, if required.
- 8. Repair propulsion components, if required.
- 9. Repair steering components, if required.
- 10. Test equipment.
- 11. Document maintenance actions.

- 1. Applicable technical references
- 2. TM 10020C-OI \_ Boat, Bridge Erection Twin Jet, Aluminum Hull (Model MK

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- 3. TM 10020C-OR 38 BEB MKIII Parts Catalog
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. TM10020C-IN\_ BEB-Cradle-Trlr
- 6. UM 4000-125 Retail Supply and Maintenance Execution Procedures

1342-MANT-1008: Perform small craft trailer corrective maintenance

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1342

BILLETS: Small Craft Mechanic

GRADES: LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided service request, appropriate tools, supplies, parts, equipment records, and references.

STANDARD: To return equipment to serviceable condition.

### PERFORMANCE STEPS:

- 1. Review the references.
- 2. Review service request.
- 3. Diagnose malfunctions.
- 4. Repair electrical components, if required.
- 5. Repair braking system, if required.
- 6. Replace wheel hub assembly components, if required.
- 7. Replace trailer components, if required.
- 8. Test equipment.
- 9. Document maintenance actions.

### **REFERENCES:**

- 1. Applicable technical references
- 2. OEM Boat Master Aluminum Trailer Owner's Manual
- 3. TM 10020C-OI \_ Boat, Bridge Erection Twin Jet, Aluminum Hull (Model MK III)
- 4. TM 11140-OR 1 BEB-263-15 TRLR
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures
- 6. TM 4700-15/1H Ground Equipment Record Procedures
- 7. TM10020C-IN\_ BEB-Cradle-Trlr
- 8. UM 4000-125 Retail Supply and Maintenance Execution Procedures

 $\underline{1342\text{-MANT-}1009}$ : Operate Test Measurement and Diagnostic Equipment (TMDE) for small craft

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: Use of special tools and equipment to perform maintenance actions on equipment

MOS PERFORMING: 1342

BILLETS: Small Craft Mechanic

GRADES: LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided applicable tools, small craft equipment, and the reference.

**STANDARD:** To detect faults and prevent system damage or failure per the reference.

# PERFORMANCE STEPS:

- 1. Identify appropriate TMDE.
- 2. Check TMDE serviceability.
- 3. Troubleshoot electrical system, if required.
- 4. Perform vacuum and pressure test, if required.
- 5. Perform compression test, if required.
- 6. Utilize outboard diagnostic kit, if required.
- 7. Maintain serviceability of TMDE.

### REFERENCES:

- 1. OEM Float-On-Trailer Owner's Manual
- 2. P/N 5007808 Commercial MFE Technical Manual
- 3. SL-3-09847A Outboard Engine Maintenance Kit
- 4. SL-311-11785A Diagnostic Kit for Non-Gasoline Burning Outboard Engine
- 5. TM 09665B-10A/1 Combat Rubber Reconnaissance Craft Field Service Manual
- 6. TM 09665B-13&P 2 Operation and Maintenance Instructions w/Component and Repair Parts Listing for Combat Rubber Reconnaissance Craft
- 7. TM 10020C-OI \_ Boat, Bridge Erection Twin Jet, Aluminum Hull (Model MK III)
- 8. TM 11140-OR 1 BEB-263-15 TRLR
- 9. TM 8L137B-OI-P Non-Gasoline Burning Outboard Engine (NBOE)
- 10. TM10020C-IN\_ BEB-Cradle-Trlr

## SUPPORT REQUIREMENTS:

**EQUIPMENT:** Outboard motor, bridge erection boat, small craft trailers, Outboard Engine Maintenance Kit

1342-MANT-1010: Conduct Limited Technical Inspection (LTI)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1342

BILLETS: Small Craft Mechanic

GRADES: LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided small craft equipment requiring inspection, LTI worksheet, and references.

**STANDARD:** To document missing and unserviceable components per the references.

# PERFORMANCE STEPS:

- 1. Identify appropriate LTI sheet.
- 2. Perform all checks indicated on the LTI sheet.
- 3. Inspect for proper assembly, if required.
- 4. Document maintenance actions.

- 1. OEM Boat Master Aluminum Trailer Owner's Manual
- 2. P/N 5007808 Commercial MFE Technical Manual
- 3. TM 09665B-10A/1 Combat Rubber Reconnaissance Craft Field Service Manual
- 4. TM 09665B-13&P 2 Operation and Maintenance Instructions w/Component and Repair Parts Listing for Combat Rubber Reconnaissance Craft
- 5. TM 10020C-OI \_ Boat, Bridge Erection Twin Jet, Aluminum Hull (Model MK III)
- 6. TM 10717B-OI Non-Gasoline Burning Outboard Engine
- 7. TM 11140-OR 1 BEB-263-15 TRLR
- 8. TM 4700-15/1\_ Ground Equipment Record Procedures
- 9. TM 8L137B-OI-P Non-Gasoline Burning Outboard Engine (NBOE)
- 10. UM 4000-125 Retail Supply and Maintenance Execution Procedures

# ENG & UTIL T&R MANUAL

# CHAPTER 18

# MOS 1345 INDIVIDUAL EVENTS

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## ENG & UTIL T&R MANUAL

### CHAPTER 18

#### MOS 1345 INDIVIDUAL EVENTS

18000. PURPOSE. This chapter details the individual events that pertain to Engineer Equipment Operator. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful.

18001. EVENT CODING. Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX-XXXX. This chapter utilizes the following methodology:

a. Field one. This field represents the community. This chapter contains the following community codes:

b. Field two. This field represents the functional/duty area. This chapter contains the following functional/duty areas:

Code Description
ADMN Administration
HEOP Heavy Equipment Operations
HORZ Horizontal Construction

c. Field three. This field provides the level at which the event is accomplished and numerical sequencing of events. This chapter contains the following event levels:

Code 1000 Description Core Skills
2000 Core Plus Skills

### 18002. INDEX OF INDIVIDUAL EVENTS

| EVENT CODE        | EVENT                                            | PAGE |  |
|-------------------|--------------------------------------------------|------|--|
| 1000-LEVEL EVENTS |                                                  |      |  |
| 1345-ADMN-1001    | Conduct engineer equipment shop operations       | 18-3 |  |
| 1345-HEOP-1001    | Operate Material Handling Equipment (MHE)        | 18-3 |  |
| 1345-HEOP-1002    | Operate Construction Equipment (CE)              | 18-4 |  |
| 2000-LEVEL EVENTS |                                                  |      |  |
| 1345-ADMN-2001    | Manage engineer equipment shop operations        | 18-5 |  |
| 1345-ADMN-2002    | Maintain engineer equipment operator records and | 18-6 |  |
|                   | forms                                            |      |  |
| 1345-ADMN-2003    | Administer engineer equipment licensing program  | 18-6 |  |
| 1345-HEOP-2001    | Operate Material Handling Equipment (MHE)        | 18-7 |  |
| 1345-HEOP-2002    | Operate Construction Equipment (CE)              | 18-8 |  |
| 1345-HEOP-2003    | Operate the 621G Scraper                         | 18-9 |  |

| 1345-HEOP-2004 | Operate equipment with a Grade Control System  | 18-9  |
|----------------|------------------------------------------------|-------|
| 1345-HEOP-2005 | Operate the Runway Sweeper                     | 18-10 |
| 1345-HEOP-2006 | Camouflage positions, vehicles or equipment    | 18-11 |
| 1345-HORZ-2001 | Prepare estimations for project production and | 18-11 |
|                | logistical requirements                        |       |

### 18003. 1000-LEVEL EVENTS

1345-ADMN-1001: Conduct engineer equipment shop operations

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1345

GRADES: PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided engineer equipment, personnel, Automated Information System (AIS), tools, facilities, forms, and references.

**STANDARD:** To maintain unit readiness without injury to personnel or damage to equipment.

## PERFORMANCE STEPS:

- 1. Identify engineer equipment.
- 2. Initiate records and forms.
- 3. Select the appropriate Technical Manuals.
- 4. Select the appropriate Lubrication orders.
- 5. Select petroleum, oils, and lubricants.
- 6. Perform inventory of tool sets.
- 7. Perform PMCS, as required.
- 8. Complete records and forms.

## REFERENCES:

- 1. MCO P4790.2 MIMMS Field Procedures Manual
- 2. SL-3-11825A Tool Kit, Vehicular, Special Purpose (Basic Operators Bag-BOB)
- 3. TM 09062C-OR/1 Tractor, Full Tracked, With Angle Blade (D6K) and Winch, Lubrication Instruction and Components List
- 4. TM 09135E-OR/1 Light Capability Rough Terrain Forklift (LCRTF) RT-022
- 5. TM 10794B-OR/A Forklift, Extendable Boom (EBFL) (MODEL: MMV [TIER 2])
- 6. TM 10996A-OR/A Backhoe Loader Caterpillar Model 420E IT
- 7. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 8. TM 11412A-OR Operator's Manual 624KR Loader
- 9. TM 11503A-OR 850 JR Crawler Dozer
- 10. TM 11621A-OR Motorized Road Grader, Model 120M
- 11. TM 4700-15/1\_ Ground Equipment Record Procedures
- 12. UM 4000-125 GCSS-MC User's Manual

1345-HEOP-1001: Operate Material Handling Equipment (MHE)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1345

GRADES: PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided an engineer equipment requirement, SL-3 components, engineer equipment records and forms, and references.

**STANDARD:** To safely meet operational requirements with no injury to personnel or damage to the equipment.

### PERFORMANCE STEPS:

- 1. Initiate operational records.
- 2. Perform before operations checks and services.
- 3. Perform starting procedures.
- 4. Conduct lifting of materials.
- 5. Operate attachments, as required.
- 6. Change attachments, as required.
- 7. Load equipment onto the appropriate trailer, as required.
- 8. Offload equipment from the appropriate trailer, as required.
- 9. Load equipment onto aircraft, as required.
- 10. Offload equipment onto aircraft, as required.
- 11. Perform during operations checks and services.
- 12. Perform shut down procedures.
- 13. Perform after operations checks and services.
- 14. Perform PMCS, as required.
- 15. Complete operational records.

### **REFERENCES:**

- 1. FM 21-60 Visual Signals
- 2. MCO 11262.2B Standard Policy for Inspection, Testing, and Certification of Tactical Ground Load Lifting Equipment
- 3. TM 09135E-OR/1 Light Capability Rough Terrain Forklift (LCRTF) RT-022
- 4. TM 10794B-OR/A Forklift, Extendable Boom (EBFL) (MODEL: MMV [TIER 2])
- 5. TM 11275-15/4 Tactical Engineer Equipment Licensing Manual
- 6. TM 11412A-OR Operator's Manual 624KR Loader
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures

1345-HEOP-1002: Operate Construction Equipment (CE)

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1345

GRADES: PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

 $\underline{\text{CONDITION}}$ : Provided an engineer equipment requirement, SL-3 components, engineer equipment records and forms, and references.

**STANDARD:** To safely meet operational requirements with no injury to personnel or damage to the equipment.

## PERFORMANCE STEPS:

- 1. Initiate operational records.
- 2. Perform before operations checks and services.
- 3. Perform starting procedures.
- 4. Operate earthmoving equipment.
- 5. Operate attachments, as required.
- 6. Change attachments, as required.
- 7. Load equipment onto the appropriate trailer, as required.
- 8. Offload equipment from the appropriate trailer, as required.
- 9. Perform during operations checks and services.
- 10. Perform shut down procedures.
- 11. Perform after operations checks and services.
- 12. Perform PMCS, as required.
- 13. Complete operational records.

### **REFERENCES:**

- 1. FM 21-60 Visual Signals
- 2. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 3. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 4. MCRP 3-17.7I Earthmoving Operations
- 5. TM 09062C-OR/1 Tractor, Full Tracked, With Angle Blade (D6K) and Winch, Lubrication Instruction and Components List
- 6. TM 10996A-OR/A Backhoe Loader Caterpillar Model 420E IT
- 7. TM 11275-15/4 Tactical Engineer Equipment Licensing Manual
- 8. TM 11503A-OR 850 JR Crawler Dozer
- 9. TM 11621A-OR Motorized Road Grader, Model 120M
- 10. TM 4700-15/1\_ Ground Equipment Record Procedures

18004. 2000-LEVEL EVENTS

1345-ADMN-2001: Manage engineer equipment shop operations

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1345

**GRADES:** CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Provided engineer equipment, personnel, Automated Information System (AIS), SL-3 components, tools, facilities, forms, and references.

**STANDARD:** In order to maintain engineer equipment readiness and availability.

## PERFORMANCE STEPS:

- 1. Identify maintenance functional areas.
- 2. Determine discrepancies within functional areas.
- 3. Identify required AIS actions.
- 4. Initiate a Service Request for required program, as required.
- 5. Document AIS actions, as required.
- 6. Complete Service Request for required program, as required.

- 7. Review the Maintenance Production Report (MPR).
- 8. Verify records and forms, as required.

### **REFERENCES:**

- 1. MCO 4400.160 Field Supply and Maintenance Analysis Office (FSMAO) Program
- 2. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
- 3. MCO P4790.2\_ MIMMS Field Procedures Manual
- 4. MMSOP Maintenance Management Standard Operating Procedures
- 5. TCPT V.2.0.5 TCPT V.2.0.5 User Manual
- 6. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 7. TM 11275-15/4 Tactical Engineer Equipment Licensing Manual
- 8. TM 4700-15/1\_ Ground Equipment Record Procedures
- 9. UM 4000-125 GCSS-MC User's Manual

1345-ADMN-2002: Maintain engineer equipment operator records and forms

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1345

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided engineer equipment, applicable forms, and references.

**STANDARD:** In order to maintain engineer equipment readiness and availability.

### PERFORMANCE STEPS:

- 1. Review the references.
- 2. Determine records/forms required.
- 3. Prepare the proper records/forms.
- 4. Maintain records/forms on file, as required.
- 5. Submit records/forms, as required.

### **REFERENCES:**

- 1. MCO 11262.2B Standard Policy for Inspection, Testing, and Certification of Tactical Ground Load Lifting Equipment
- 2. MCO 4400.160 Field Supply and Maintenance Analysis Office (FSMAO) Program
- 3. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
- 4. MCO P4790.2\_ MIMMS Field Procedures Manual
- 5. TCPT V.2.0.5 TCPT V.2.0.5 User Manual
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures
- 7. UM 4000-125 GCSS-MC User's Manual

1345-ADMN-2003: Administer engineer equipment licensing program

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1345

**BILLETS:** Licensing Examiner

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With personnel, documentation, licensing records, and references.

STANDARD: To ensure licensing requirements are met IAW TM 11275-15/4.

### PERFORMANCE STEPS:

- 1. Review the references.
- 2. Determine operator licensing requirements.
- 3. Validate equipment training.
- 4. Review and approve/reject licensing applications and renewals.
- 5. Administer licensing tests.
- 6. Review completed OF 346.
- 7. Document licensing action.

#### **REFERENCES:**

- 1. MMSOP Maintenance Management Standard Operating Procedures
- 2. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 3. TM 11275-15/4 Tactical Engineer Equipment Licensing Manual
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures

1345-HEOP-2001: Operate Material Handling Equipment (MHE)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1345

**GRADES:** CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided an engineer equipment requirement, SL-3 components, engineer equipment records and forms, and references.

**STANDARD:** To safely meet operational requirements with no injury to personnel or damage to the equipment.

### PERFORMANCE STEPS:

- 1. Initiate operational records.
- 2. Perform before operations checks and services.
- 3. Perform starting procedures.
- 4. Conduct lifting of materials.
- 5. Operate attachments, as required.
- 6. Change attachments, as required.
- 7. Prepare for transportation, as required.
- 8. Perform during operations checks and services.
- 9. Perform shut down procedures.
- 10. Perform after operations checks and services.
- 11. Perform PMCS, as required.
- 12. Complete operational records.

### **REFERENCES:**

- 1. FM 21-60 Visual Signals
- 2. MCO 11262.2B Standard Policy for Inspection, Testing, and Certification of Tactical Ground Load Lifting Equipment
- 3. TM 09166B-OR Air Mobile Crane (AMC) Rough Terrain, Hydraulic, Light (Model: LRT 110)
- 4. TM 11078A-OR Rough Terrain Container Handler (RTCH) RT 240 V2; 53,000LB Capacity; 4X4
- 5. TM 11262A-OR/3 Operations and Operator/Crew Maintenance Manual for all-terrain crane
- 6. TM 11275-15/4 Tactical Engineer Equipment Licensing Manual
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures

1345-HEOP-2002: Operate Construction Equipment (CE)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1345

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Provided an engineer equipment requirement, engineer equipment records and forms, and references.

**STANDARD:** To safely meet operational requirements with no injury to personnel or damage to the equipment.

# PERFORMANCE STEPS:

- 1. Initiate operational records.
- 2. Perform before operations checks and services.
- 3. Perform starting procedures.
- 4. Operate earthmoving equipment.
- 5. Operate attachments, as required.
- 6. Change attachments, as required.
- 7. Perform during operations checks and services.
- 8. Perform shut down procedures.
- 9. Perform after operations checks and services.
- 10. Perform PMCS, as required.
- 11. Complete operational records.

- 1. FM 21-60 Visual Signals
- 2. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 3. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 4. TM 10494B-OR/1 Vibratory Compactor
- 5. TM 11234A1/11234B-OI/1 T-120 Skid Mounted Hydro Seeder
- 6. TM 112421A/11241B-OI/1 T-90 Trailer Mounted Hydro Seeder
- 7. TM 11275-15/4 Tactical Engineer Equipment Licensing Manual
- 8. TM 11276A-0I/1 Multi-Terrain Loader (MTL)
- 9. TM 11840A-OR Operator's Manual for M9 Armored Combat Earthmover (ACE)
- 10. TM 12141A-OR/1 Operators manual 250 GR

- 11. TM 4700-15/1\_ Ground Equipment Record Procedures
- 12. TM 5-3800-205-10-2 Distributor, Water, Tank Type, 2525 Gallon Capacity, Sectionalized Model 613CWD

1345-HEOP-2003: Operate the 621G Scraper

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1345

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided an engineer equipment requirement, supporting equipment, engineer equipment records and forms, and references.

**STANDARD:** To safely meet operational requirements with no injury to personnel or damage to the equipment.

# PERFORMANCE STEPS:

- 1. Initiate operational records.
- 2. Perform before operations checks and services.
- 3. Perform starting procedures.
- 4. Perform self-loading operations.
- 5. Perform external loading procedures.
- 6. Perform push loading operations.
- 7. Perform during operations checks and services.
- 8. Perform shut down procedures.
- 9. Perform after operations checks and services.
- 10. Perform PMCS, as required.
- 11. Complete operational records.

## REFERENCES:

- 1. TM 08900B-OR/1 Tractor-Scraper, Wheeled Model 621G
- 2. TM 10996A-OR/A Backhoe Loader Caterpillar Model 420E IT
- 3. TM 11275-15/4 Tactical Engineer Equipment Licensing Manual
- 4. TM 11412A-OR Operator's Manual 624KR Loader
- 5. TM 11503A-OR 850 JR Crawler Dozer
- 6. TM 12141A-OR/1 Operators manual 250 GR
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures

### SUPPORT REQUIREMENTS:

**EQUIPMENT:** 850JR MCT Crawler Dozer, 624KR Loader, Hydraulic Excavator, Backhoe Loader Caterpillar Model 420E IT

1345-HEOP-2004: Operate equipment with a Grade Control System

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1345

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided an engineer equipment requirement and references.

**STANDARD:** To safely meet operational requirements with no injury to personnel or damage to the equipment.

### PERFORMANCE STEPS:

- 1. Review the references.
- 2. Install the laser system.
- 3. Install the GPS system.
- 4. Perform the measure up of the GPS system.
- 5. Perform valve calibration.
- 6. Perform sensor calibration.
- 7. Perform site set up of laser system.
- 8. Perform site set up of GPS system.
- 9. Perform leveling operations.

### **REFERENCES:**

- 1. TM 11503A-OR 850 JR Crawler Dozer
- 2. TM 11621A-OR Motorized Road Grader, Model 120M
- 3. TM 11907B-OR/1 Operation and Maintenance Manual for Grade Control System (GCS)
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures

1345-HEOP-2005: Operate the Runway Sweeper

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1345

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Provided an engineer equipment requirement, engineer equipment records, forms and references.

**STANDARD:** To safely meet operational requirements with no injury to personnel or damage to the equipment.

# PERFORMANCE STEPS:

- 1. Initiate operational records.
- 2. Perform before operations checks and services.
- 3. Perform starting procedures.
- 4. Perform during operations checks and services.
- 5. Operate the sweeper to remove foreign object debris (FOD).
- 6. Perform shut down procedures.
- 7. Perform after operations checks and services.
- 8. Perform PMCS, as required.
- 9. Complete operational records.

- 1. FM 21-60 Visual Signals
- 2. TM 11275-15/4 Tactical Engineer Equipment Licensing Manual
- TM 11941A-OR Operator's Manual for Sweeper, Rotary, Vehicle Mounting, Model Crosswind J
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures

1345-HEOP-2006: Camouflage positions, vehicles or equipment

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1345

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Provided a mission, an area, and lightweight camouflage screening system components.

STANDARD: To prevent detection from 200 meters in any direction.

#### PERFORMANCE STEPS:

- 1. Review size of positions, vehicles, or equipment to be camouflaged.
- 2. Determine required modules of lightweight screen needed.
- 3. Assemble modules into one net.
- 4. Place assembled modules over position, vehicles, or equipment to be camouflaged.
- 5. Ensure appropriate blend is showing.
- 6. Tie into existing, natural or other manmade camouflage.
- 7. Inspect area frequently and upgrade camouflage, as needed.

## **REFERENCES:**

- 1. FM 5-20 Camouflage
- 2. MCRP 3-17.6A Camouflage, Concealment, and Decoys

<u>1345-HORZ-2001</u>: Prepare estimations for project production and logistical requirements

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1345

**GRADES:** CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a horizontal construction mission, resources, and references.

STANDARD: To support mission requirements.

### PERFORMANCE STEPS:

1. Identify weight of a specified volume of soil.

- 2. Calculate the maximum load volume and weight.
- 3. Calculate required production rates.
- 4. Calculate the time requirement for mission completion.
- 5. Identify logistical requirements to support a mission.

- 1. MCRP 3-17.7I Earthmoving Operations
- 2. MCRP 3-17A Engineer Field Data
- 3. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 4. TM 08900B-OR/1 Tractor-Scraper, Wheeled Model 621G
- 5. TM 10632A-OR/A Truck, Dump, 7-ton, MK29/MK30
- 6. TM 11275-15/3 Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 7. TM 11412A-OR Operator's Manual 624KR Loader
- 8. TM 11621A-OR Motorized Road Grader, Model 120M

# ENG & UTIL T&R MANUAL

# CHAPTER 19

# MOS 1349 INDIVIDUAL EVENTS

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#### ENG & UTIL T&R MANUAL

### CHAPTER 19

## MOS 1349 INDIVIDUAL EVENTS

19000. PURPOSE. This chapter details the individual events that pertain to the Engineer Equipment Chief. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful.

19001. EVENT CODING. Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX-XXXX. This chapter utilizes the following methodology:

a. Field one. This field represents the community. This chapter contains the following community codes:

Code Description
1349 Administrative Specialist

b. Field two. This field represents the functional/duty area. This chapter contains the following functional/duty areas:

CodeDescriptionADMNAdministrationHEOPHeavy Equipment OperationsHORZHorizontal ConstructionMANTMaintenance

c. Field three. This field provides the level at which the event is accomplished and numerical sequencing of events. This chapter contains the following event levels:

# 19002. INDEX OF INDIVIDUAL EVENTS

| EVENT CODE     | EVENT                                          | PAGE |
|----------------|------------------------------------------------|------|
|                | 2000-LEVEL EVENTS                              |      |
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|                | support program                                |      |
| 1349-ADMN-2006 | Supervise engineer equipment licensing program | 19-6 |

| 1349-ADMN-2007 | Supervise load test of engineer equipment     | 19-7  |
|----------------|-----------------------------------------------|-------|
| 1349-ADMN-2008 | Supervise corrosion prevention and control    | 19-8  |
|                | program                                       |       |
| 1349-ADMN-2009 | Supervise engineer equipment MOS training     | 19-8  |
|                | program                                       |       |
| 1349-ADMN-2010 | Conduct an Operational Risk Assessment (ORA)  | 19-9  |
| 1349-HEOP-2001 | Supervise engineer equipment operations       | 19-10 |
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|                | production and logistical requirements        |       |
| 1349-HORZ-2003 | Validate project/operation schedule           | 19-12 |
| 1349-MANT-2001 | Supervise engineer equipment maintenance shop | 19-12 |
|                | operations                                    |       |
| 1349-MANT-2002 | Supervise engineer equipment availability     | 19-13 |

#### 19003. 2000-LEVEL EVENTS

1349-ADMN-2001: Supervise publications program

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1349

BILLETS: Engineer Equipment Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**STANDARD:** Ensuring required publications are available to maintain the section's operational capabilities and readiness.

# PERFORMANCE STEPS:

- 1. Review the references.
- 2. Identify publication requirements based on mission and T/O&E.
- 3. Audit section's Individual Distribution Listing (IDL).
- 4. Validate on-hand publications inventory.
- 5. Inspect section's library for missing or outdated publications.
- 6. Verify that published changes are made to publications.
- 7. Evaluate control procedures.
- 8. Evaluate NAVMC 10772 procedures.
- 9. Correct deficiencies.

- 1. MCO 4400.120\_ Joint Regulation Governing the Use and Application of Uniform Source Maintenance and Recoverability Codes
- 2. MCO 5215.1\_ Marine Corps Directives Management Program
- 3. MCO 5600.20\_ Marine Corps Doctrinal Publications System

- 4. MCO 5600.31\_ Marine Corps Printing and Publishing Regulations
- 5. MCO P4400.82\_ Regulated/Controlled Item Management Manual
- 6. MCO P4790.2\_ MIMMS Field Procedures Manual
- 7. MCO P5215.17\_ The Marine Corps Technical Publications System
- 8. NAVMC 2761 Catalog of Publications
- 9. PLMS V3 UG Publication Library Management System Version 3 Users Guide
- 10. SECNAV M-5210.2\_ Department of the Navy Standard Subject Identification Code (SSIC) Manual
- 11. UNIT SOP Unit's Standing Operating Procedures

1349-ADMN-2002: Supervise engineer equipment records and forms

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1349

BILLETS: Engineer Equipment Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided items of engineer equipment, appropriate records/forms, and references.

**STANDARD:** To support mission requirements.

## PERFORMANCE STEPS:

- 1. Review the references.
- 2. Identify requirements for engineer equipment records/forms.
- 3. Ensure records for each item of engineer equipment are established as required.
- 4. Maintain records and forms.
- 5. Supervise Product Quality Deficiency Report (PQDR) program.

#### **REFERENCES:**

- 1. MCO 4105.2\_ Marine Corps Warranty Program
- 2. MCO 4790.19 Depot Maintenance Policy
- 3. MCO P11262.2 Inspection, Testing, and Certification of Tactical Ground Load Lifting Equipment
- 4. MCO P4790.2\_ MIMMS Field Procedures Manual
- 5. TM 4700-15/1\_ Ground Equipment Record Procedures
- 6. UM 4790-5 MIMMS-AIS Field Maintenance Procedures

1349-ADMN-2003: Supervise support and test equipment program

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1349

BILLETS: Engineer Equipment Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided support and test equipment and references.

STANDARD: To support mission requirements in accordance with MCO P4790.2\_.

# PERFORMANCE STEPS:

- 1. Review the references.
- 2. Review support and test equipment assets and requirements.
- 3. Supervise support and test equipment inventory and control.

#### **REFERENCES:**

- 1. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 2. MCO P4790.2\_ MIMMS Field Procedures Manual
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures

1349-ADMN-2004: Supervise maintenance-related programs

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1349

BILLETS: Engineer Equipment Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided maintenance resources, local maintenance directives, and the reference.

STANDARD: To support mission requirements in accordance with MCO P4790.2\_.

#### PERFORMANCE STEPS:

- 1. Review the references.
- 2. Provide input to the Maintenance Management SOP (MMSOP).
- 3. Validate modification control program.
- 4. Validate calibration control program.
- 5. Validate quality control program.
- 6. Monitor Corrective Maintenance (CM) program.
- 7. Monitor Preventive Maintenance (PM).
- 8. Plan the use of maintenance resources.
- 9. Organize the use of maintenance resources.
- 10. Coordinate the use of maintenance resources.
- 11. Conduct internal inspections.

- 1. DLA Customer Assistance Handbook
- 2. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
- 3. MCO 4855.10\_ Product Quality Deficiency Report (PQDR)
- 4. MCO P4400.150\_ Consumer Level Supply Policy Manual

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- 5. MCO P4733.1\_ Marine Corps TMDE Calibration and Maintenance Program
- 6. MCO P4790.2\_ MIMMS Field Procedures Manual
- 7. TI 4733-OD/1\_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
- 8. TM 4700-15/1\_ Ground Equipment Record Procedures

1349-ADMN-2005: Supervise engineer equipment section supply support program

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1349

BILLETS: Engineer Equipment Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided maintenance-related reports, appropriate equipment-related publications, and references.

STANDARD: To support unit mission in accordance with MCO P4400.150.

#### PERFORMANCE STEPS:

- 1. Review the references.
- 2. Review supply support request.
- 3. Submit input for budget requirements.
- 4. Monitor allocated funding.
- 5. Monitor pre-expended bin (PEB).
- 6. Monitor layette procedures.
- 7. Submit input for supply requirements.
- 8. Monitor validation/reconciliation procedures.

# REFERENCES:

- 1. MCO 4400.120\_ Joint Regulation Governing the Use and Application of Uniform Source Maintenance and Recoverability Codes
- 2. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
- 3. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 4. MCO P4400.82 Regulated/Controlled Item Management Manual
- 5. MCO P4790.2\_ MIMMS Field Procedures Manual
- 6. MCO P7100.8\_ Field Budget Guidance Manual
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures
- 8. UM 4400-124 SASSY Using Unit Procedures
- 9. UM 4790-5 MIMMS-AIS Field Maintenance Procedures

1349-ADMN-2006: Supervise engineer equipment licensing program

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1349

BILLETS: Engineer Equipment Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With personnel, equipment, documentation, licensing records, and references.

**STANDARD:** Ensuring equipment operators are licensed in accordance with TM  $\frac{11275-15}{4}$ .

#### PERFORMANCE STEPS:

- 1. Review the references.
- 2. Determine operator licensing requirements.
- 3. Review equipment training and testing programs.
- 4. Review and approve/reject licensing applications (and renewals).
- 5. Review and approve completed OF 346.
- Ensure any licensing action (issue/renewal/revocation) is documented and recorded.

#### **REFERENCES:**

- 1. MCO P11262.2 Inspection, Testing, and Certification of Tactical Ground Load Lifting Equipment
- 2. MCO P4790.1\_ Marine Corps Integrated Maintenance Management System (MIMMS) Introduction Manual
- 3. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
- 4. TM 11275-15/4 Tactical Engineer Equipment Licensing Manual
- 5. TM 4700-15/1 Ground Equipment Record Procedures
- 6. UNIT SOP Unit's Standing Operating Procedures
- 7. Unit T/O&E Unit's Table of Organization and Equipment

1349-ADMN-2007: Supervise load test of engineer equipment

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1349

BILLETS: Engineer Equipment Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided appropriate load lifting equipment with current Annual Condition Inspection (ACI), maintenance resources, and references.

**STANDARD:** To ensure load testing is conducted, certified, documented and maintained on a scheduled basis.

### PERFORMANCE STEPS:

- 1. Review the References.
- 2. Identify load testing requirements.
- 3. Verify that a current ACI has been conducted.

- 4. Conduct a load test
- 5. Document load test results.
- 6. Review documentation.
- 7. Certify documentation.

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO P11262.2 Inspection, Testing, and Certification of Tactical Ground Load Lifting Equipment
- 3. MCO P4790.2 MIMMS Field Procedures Manual
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures

1349-ADMN-2008: Supervise corrosion prevention and control program

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1349

BILLETS: Engineer Equipment Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: Given an equipment section, required safety materials, appropriate tools, and the references.

STANDARD: To maintain equipment in an operational status.

#### PERFORMANCE STEPS:

- 1. Identify corrosion prevention and control requirements.
- 2. Establish corrosion prevention and control procedures.
- 3. Supervise corrosion prevention and control procedures.

## **REFERENCES:**

- 1. MCO 4790.18\_ Corrosion Prevention and Control (CPAC) Program
- 2. TM 3080-12 Corrosion Control for Marine Corps Ground Equipment
- 3. TM 3080-50 Corrosion Control Procedures

1349-ADMN-2009: Supervise engineer equipment MOS training program

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1349

BILLETS: Engineer Equipment Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With training resources, records and references.

**STANDARD:** Identifying engineer training requirements in accordance with unit SOP.

## PERFORMANCE STEPS:

- 1. Review the references.
- 2. Review the annual training plan.
- 3. Review the section training plan.
- 4. Identify supervisor's responsibilities.
- 5. Monitor personnel conducting training.
- 6. Ensure training is documented correctly.

#### **REFERENCES:**

- MCO 11240.66\_ Standard Licensing Policy for Operators of Military Motor Vehicles
- 2. MCO 1553.3\_ Unit Training Management (UTM) Program
- 3. MCO 3500.27\_ Operational Risk Management (ORM)
- 4. MCO P3500.72\_ Marine Corps Ground Training and Readiness (T&R) Program
- 5. MCRP 3-0A Unit Training Management Guide
- 6. MCRP 3-0B How to Conduct Training
- 7. NAVMC 3500.12\_ Marine Corps Engineer and Utilities Training and Readiness Manual
- 8. TM 11275-15/4 Tactical Engineer Equipment Licensing Manual
- 9. Unit SOP Unit's Standing Operating Procedures

1349-ADMN-2010: Conduct an Operational Risk Assessment (ORA)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1349

BILLETS: Engineer Equipment Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

 $\underline{\text{CONDITION}}$ : Given a task/mission, a Risk Management Worksheet, and references.

**STANDARD:** So that task/mission effectiveness is increased while loss of personnel and material is minimized through the use of risk management controls.

# PERFORMANCE STEPS:

- 1. Review the task/mission.
- 2. Review the references.
- 3. Identify hazards.
- 4. Assess hazards to identify severity and probability.
- 5. Develop controls.
- 6. Make risk decisions.
- 7. Implement controls.

- 1. MCO 3500.27\_ Operational Risk Management (ORM)
- 2. MCO 5100.29\_ Marine Corps Safety Program
- 3. MCO P5102.1\_ Navy and Marine Corps Mishap and Safety Investigation Reporting and Record Keeping Manual
- 4. MCRP 5-12.1C Risk Management Cancelled w/o replacement

1349-HEOP-2001: Supervise engineer equipment operations

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1349

BILLETS: Engineer Equipment Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided engineer equipment, available resources, mission

statement and references.

STANDARD: To support mission statement and requirements.

#### PERFORMANCE STEPS:

- 1. Review the mission.
- 2. Identify engineer equipment assets required.
- 3. Conduct engineer equipment operations.
- 4. Supervise Material Handling Equipment (MHE) employment.
- 5. Supervise earth moving equipment employment.
- 6. Supervise general support engineer equipment employment.
- 7. Supervise equipment recovery operations, as required.

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO 3500.27\_ Operational Risk Management (ORM)
- 3. MCRP 3-17.7I Earthmoving Operations
- 4. MCRP 3-17A Engineering Field Data
- 5. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment

1349-HORZ-2001: Supervise horizontal construction

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1349

BILLETS: Engineer Equipment Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a horizontal construction project, a construction site, engineer equipment, resources, and references.

STANDARD: To meet milestones per the project specifications.

#### PERFORMANCE STEPS:

- 1. Create a construction plan.
- 2. Implement the construction plan.
- 3. Supervise personnel.
- 4. Supervise equipment employment.
- 5. Consolidate available resources.
- 6. Conduct quality assurance.

#### **REFERENCES:**

- 1. MCRP 3-17.7F Project Management
- 2. MCRP 3-17.7I Earthmoving Operations
- 3. TM 11275-15/3\_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment

1349-HORZ-2002: Supervise horizontal construction project production and logistical requirements

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1349

BILLETS: Engineer Equipment Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

 $\underline{\text{CONDITION}}$ : Provided a horizontal construction mission, resources, and references.

STANDARD: To develop project estimates in support of mission requirements.

# PERFORMANCE STEPS:

- 1. Conduct site reconnaissance.
- 2. Identify construction requirements.
- 3. Identify logistical requirements.
- 4. Identify environmental controls and natural resources considerations.
- 5. Formulate a resource logistical estimation.
- 6. Formulate a resource production estimation.

- 1. Appropriate Technical Manuals
- 2. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 3. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 4. MCRP 3-17.7F Project Management
- 5. MCRP 3-17.7G Military Soils Engineering

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- 6. MCRP 3-17.7I Earthmoving Operations
- 7. MCRP 3-17A Engineering Field Data
- 8. MCRP 4-11.8A Marine Corps Field Feeding Program
- 9. MCRP 4-11A, Vol 1 CSS Field Reference Guide
- 10. MCWP 3-17 Engineer Operations
- 11. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 12. TM 3-34.55 Construction Surveying

1349-HORZ-2003: Validate project/operation schedule

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1349

BILLETS: Engineer Equipment Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a mission, a completed project/operation schedule and references.

**STANDARD:** To confirm that the required engineer resources and personnel are identified, the timeline conforms to mission specifications, and the graphic depiction of the schedule is accurate.

## PERFORMANCE STEPS:

- 1. Review the mission.
- 2. Verify activity estimate sheets.
- 3. Verify logical sequence of activities.
- 4. Verify critical path.
- 5. Review graphical depiction, if necessary.
- 6. Ensure schedule remains updated throughout the duration of the project/operation.

## **REFERENCES:**

- 1. MCRP 3-17.7F Project Management
- 2. MCRP 3-17.7I Earthmoving Operations

1349-MANT-2001: Supervise engineer equipment maintenance shop operations

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1349

BILLETS: Engineer Equipment Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a mission statement, maintenance facility, resources and references.

**STANDARD:** To ensure maintenance facilities and procedures are established per the mission statement.

#### PERFORMANCE STEPS:

- 1. Identify the mission requirements.
- 2. Identify all maintenance resources.
- 3. Identify environmental and natural resource considerations.
- 4. Designate required maintenance shop areas.
- 5. Implement the maintenance production process.
- 6. Validate operational risk management procedures.
- 7. Implement shop safety programs.

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO P4790.2\_ MIMMS Field Procedures Manual
- 3. MCWP 5-1 Marine Corps Planning Process (MCPP)
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. Unit T/O&E Unit's Table of Organization and Equipment

1349-MANT-2002: Supervise engineer equipment availability

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1349

**BILLETS:** Engineer Equipment Chief

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a mission statement, maintenance facility, resources and references.

 $\underline{\mathtt{STANDARD}}$ : To support the unit mission statement (TO/E) in accordance with MCO P4790.2 .

# PERFORMANCE STEPS:

- 1. Review the references.
- 2. Validate urgency of need designator assignment codes.
- 3. Review maximum maintenance cycle time.
- 4. Develop plan to increase equipment availability.

- 1. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
- 2. MCO P4790.1\_ Marine Corps Integrated Maintenance Management System (MIMMS) Introduction Manual
- 3. MCO P4790.2\_ MIMMS Field Procedures Manual

# ENG & UTIL T&R MANUAL

# CHAPTER 20

# MOS 1361 INDIVIDUAL EVENTS

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## ENG & UTIL T&R MANUAL

#### CHAPTER 20

#### MOS 1361 INDIVIDUAL EVENTS

**20000. PURPOSE.** This chapter details the individual events that pertain to Engineer Assistant Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful.

**20001. EVENT CODING.** Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX-XXXX. This chapter utilizes the following methodology

a. Field one. This field represents the community. This chapter contains the following community codes:

| Code | Description |           |
|------|-------------|-----------|
| 1361 | Engineer    | Assistant |

b. Field two. This field represents the functional/duty area. This chapter contains the following functional/duty areas:

| <u>Code</u> | Description         |
|-------------|---------------------|
| ADMN        | Administration      |
| MANT        | Maintenance         |
| XENG        | General Engineering |
| SRVY        | Surveying           |

c. Field three. This field provides the level at which the event is accomplished and numerical sequencing of events. This chapter contains the following event levels:

| Code | Description      |  |
|------|------------------|--|
| 1000 | Core Skills      |  |
| 2000 | Core Plus Skills |  |

## 20002. INDEX OF INDIVIDUAL EVENTS

| EVENT CODE     | EVENT                                                     | PAGE |
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|                | 1000-LEVEL EVENTS                                         |      |
| 1361-DRAF-1001 | Perform basic drafting techniques                         | 20-3 |
| 1361-DRAF-1002 | Create computer-aided multi-view drawings                 | 20-4 |
| 1361-DRAF-1003 | Create computer-aided architectural drawings              | 20-4 |
| 1361-SRVY-1001 | Complete a control traverse using optical equipment       | 20-5 |
|                | Establish project control points using Global Positioning |      |
|                | System (GPS) equipment                                    | 20-6 |

| 1361-SRVY-1003 | Conduct a radial survey using optical equipment                     | 20-7  |
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| 1361-SRVY-1004 | Conduct a topographic survey with GPS equipment                     | 20-8  |
|                | Conduct an integrated radial survey using optical and GPS equipment | 20-8  |
| 1361-SRVY-1006 | Adjust collected field data                                         | 20-9  |
| 1361-SRVY-1007 | Create computer-aided civil drawings                                | 20-10 |
| 1361-SRVY-1008 | Layout a project using optical equipment                            | 20-11 |
| 1361-SRVY-1009 | Layout a project using GPS equipment                                | 20-12 |
| 1361-SRVY-1010 | Layout a project using integrated GPS and optical                   | 20-13 |
| 1361-SRVY-1011 | Perform differential elevation leveling using an                    |       |
|                | autolevel/laser level                                               | 20-13 |
| 1361-SRVY-1012 | Prepare Grade Control System (GCS)                                  | 20-14 |
| 1361-SRVY-1013 | Perform hasty soil analysis                                         | 20-15 |
|                | 2000-LEVEL EVENTS                                                   |       |
| 1361-SRVY-2001 | Design a horizontal construction project                            | 20-16 |
| 1361-SRVY-2002 | Prepare Grade Control System (GCS)                                  | 20-17 |
| 1361-SRVY-2003 | Design a vertical construction project                              | 20-18 |
| 1361-SRVY-2004 | Compute a project bill of materials                                 | 20-19 |
| 1361-SRVY-2005 | Implement project planning methods                                  | 20-19 |
| 1361-ADMN-2001 | Control publications                                                | 20-20 |
| 1361-ADMN-2002 | Initiate maintenance actions                                        | 20-21 |
| 1361-ADMN-2003 | Manage maintenance related programs                                 | 20-22 |
| 1361-XENG-2002 | Plan survey support for the construction of a base camp             | 20-22 |

## 20003. 1000-LEVEL EVENTS

1361-DRAF-1001: Perform basic drafting techniques

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

MOS PERFORMING: 1361

**BILLETS:** Engineer Assistant

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided survey set (G.P.), and references.

STANDARD: That meets American National Standards Institute (ANSI) guidelines.

# PERFORMANCE STEPS:

- Start the computer-aided drafting program.
   Establish drawing parameters.

3. Utilize drawing command functions.

#### **REFERENCES:**

- 1. ANSI A-A-52034A Drafting
- 2. FM 5-553 General Drafting

1361-DRAF-1002: Create computer-aided multi-view drawings

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1361

BILLETS: Engineer Assistant

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided survey set (G.P.), written project specifications, design sketches, a printer or plotter, and references.

**STANDARD:** That conform to project specifications, design sketches, and American National Standards Institute (ANSI) guidelines.

### PERFORMANCE STEPS:

- 1. Review written specifications and design sketches.
- 2. Perform basic drafting techniques.
- 3. Create a multi-view drawing.
- 4. Print or plot the multi-view drawing.

### REFERENCES:

- 1. ANSI A-A-52034A Drafting
- 2. FM 5-553 General Drafting
- 3. OEM (AutoCAD User's Manual) AutoCAD User's Manual

1361-DRAF-1003: Create computer-aided architectural drawings

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1361

BILLETS: Engineer Assistant

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided survey set (G.P.), written project specifications, design sketches, a printer or plotter, and references.

**STANDARD:** That conform to project specifications, design sketches, and American National Standards Institute (ANSI) guidelines.

## PERFORMANCE STEPS:

- 1. Review written project specifications and design sketches.
- 2. Perform basic drafting techniques.
- 3. Create a foundation plan.
- 4. Create a floor plan with door and window schedules.
- 5. Create an electrical plan with lighting schedule.
- 6. Create a plumbing plan with fixture schedule.
- 7. Create elevation views.
- 8. Create section and detail drawings.
- 9. Print or plot the architectural drawings.

#### **REFERENCES:**

- 1. ANSI A-A-52034A Drafting
- 2. FM 5-426 Carpentry
- 3. FM 5-428 Concrete and Masonry
- 4. FM 5-553 General Drafting
- 5. MCRP 3-17.7K Theater of Operations Electrical Systems
- 6. NAVEDTRA 10696 Engineer Aid 3
- 7. OEM (AutoCAD User's Manual) AutoCAD User's Manual
- 8. TM 5-581B Construction Drafting
- 9. TM 5-704 Construction Print Reading in the Field

1361-SRVY-1001: Complete a control traverse using optical equipment

**EVALUATION-CODED: NO SUSTAINMENT INTERVAL:** 3 months

MOS PERFORMING: 1361

BILLETS: Engineer Assistant

**GRADES:** PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided written project specifications, survey set (G.P.), and references.

**STANDARD:** To guide horizontal and vertical construction project layouts to the third order of accuracy.

#### PERFORMANCE STEPS:

- 1. Review project specifications and design sketches.
- 2. Identify control station locations.
- 3. Assemble the total station instruments and reference targets.
- 4. Create a new control survey job file.
- 5. Perform station establishment.
- 6. Initialize total station for control survey traverse.
- 7. Measure and record angle sets and distances between traverse stations.
- 8. Export control survey points job file as \*.CSV (comma delineated) file for

 ${\tt GPS}$  site calibration, as required, when working with engineer earthmoving equipment using current  ${\tt Grade}$  Control  ${\tt System}$  (GCS).

- 9. Download/import control survey file into surveying software program.
- 10. Generate accuracy summary report.

#### **REFERENCES:**

- 1. FM 3-34.331 Topographic Surveying
- 2. MCRP 4-11B Environmental Considerations
- 3. NAVEDTRA 10696 Engineer Aid 3
- 4. OEM Original Equipment Manufacturer Manuals
- 5. OEM (TRIMBLE S6 User's Manual) TRIMBLE S6 User's Manual
- 6. OEM Trimble Survey Controller User Guide
- 7. TM 3-34.55 Construction Surveying
- 8. TM 5-6675-332-10 Operators Manual, Automated Integrated Survey Instrument (AISI)

1361-SRVY-1002: Establish project control points using Global Positioning System (GPS) equipment

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 3 months

MOS PERFORMING: 1361

BILLETS: Engineer Assistant

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided written project specifications, a survey set (G.P.), and references.

**STANDARD:** To guide horizontal and vertical construction project layouts to the third order of accuracy.

## PERFORMANCE STEPS:

- 1. Review project specifications and design sketches.
- 2. Identify control station locations.
- 3. Assemble the GPS base station and rovers.
- 4. Create a control survey job file in the data collector.
- 5. Start/initialize base station for Real Time Kinematics (RTK) survey.
- 6. Perform a here point with the GPS base station.
- 7. Start/initialize the GPS rover for Real Time Kinematics (RTK) survey.
- 8. Occupy/measure all control points with the GPS rover.
- 9. Finish the GNSS control survey.
- 10. Import/download control survey file into surveying software.
- 11. Post process data with the surveying software.

- 1. FM 3-34.331 Topographic Surveying
- 2. MCRP 4-11B Environmental Considerations
- 3. NAVEDTRA 10696 Engineer Aid 3

- 4. OEM Original Equipment Manufacturer Manuals
- 5. OEM (TRIMBLE R-8 User's Manual) TRIMBLE R-8 User's Manual
- 6. OEM Trimble Survey Controller User Guide
- 7. TM 3-34.55 Construction Surveying
- 8. TM 5-6675-332-10 Operators Manual, Automated Integrated Survey Instrument (AISI)

1361-SRVY-1003: Conduct a radial survey using optical equipment

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 3 months

MOS PERFORMING: 1361

BILLETS: Engineer Assistant

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided written project specifications, a control traverse, a survey set (G.P.), and references.

**STANDARD:** Collecting planimetric and topographic field data to the third order of accuracy.

#### PERFORMANCE STEPS:

- 1. Review project specifications.
- 2. Assemble the total station instrument.
- 3. Create a new job file in the data collector.
- 4. Link previous control survey point coordinates to the new topographic survey file.
- 5. Perform station establishment.
- 6. Initialize for topographic data collection.
- 7. Measure and record topographic and planimetric data.
- 8. Assign properties to observations.
- 9. Perform surface scan.
- 10. Download/import topographic data into surveying software.
- 11. Draft linework to features collected.
- 12. Assign blocks to features collected.
- 13. Produce a contoured site plan per specifications.

- 1. FM 3-34.331 Topographic Surveying
- 2. MCRP 4-11B Environmental Considerations
- 3. NAVEDTRA 10696 Engineer Aid 3
- 4. OEM (TRIMBLE S6 User's Manual) TRIMBLE S6 User's Manual
- 5. OEM Trimble Survey Controller User Guide
- 6. TM 3-34.55 Construction Surveying
- 7. TM 5-6675-332-10 Operators Manual, Automated Integrated Survey Instrument (AISI)

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1361-SRVY-1004: Conduct a topographic survey with GPS equipment

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 3 months

MOS PERFORMING: 1361

BILLETS: Engineer Assistant

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided written project specifications, a control traverse, a survey set (G.P.), and references.

**STANDARD:** Collecting planimetric and topographic field data to the third order of accuracy.

## PERFORMANCE STEPS:

- 1. Review project specifications.
- 2. Create a new job file in the data collector.
- 3. Link previous control survey point coordinates to the topographic survey file, as necessary.
- 4. Assemble the GPS surveying system.
- 5. Start/initialize the GPS base station over a known control point.
- 6. Start/initialize the GPS rovers for Real Time Kinematics (RTK) survey.
- 7. Measure/record topographic and plainmetric data.
- 8. Assign properties to observations.
- 9. Download/import topographic data into surveying software.
- 10. Draft linework to collected points.
- 11. Assign blocks to features collected.
- 12. Produce a contoured site plan drawing per specifications.

#### **REFERENCES:**

- 1. FM 3-34.331 Topographic Surveying
- 2. MCRP 4-11B Environmental Considerations
- 3. NAVEDTRA 10696 Engineer Aid 3
- 4. OEM (TRIMBLE R-8 User's Manual) TRIMBLE R-8 User's Manual
- 5. OEM Trimble Survey Controller User Guide
- 6. TM 3-34.55 Construction Surveying
- 7. TM 5-6675-332-10 Operators Manual, Automated Integrated Survey Instrument (AISI)

1361-SRVY-1005: Conduct an integrated radial survey using optical and GPS equipment

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 3 months

MOS PERFORMING: 1361

BILLETS: Engineer Assistant

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided written project specifications, a control traverse, a survey set (G.P.), and references.

**STANDARD:** Collecting planimetric and topographic field data to the third order of accuracy.

## PERFORMANCE STEPS:

- 1. Review project specifications.
- 2. Assemble the total station instrument.
- 3. Assemble the GPS equipment.
- 4. Attach a prism and a GPS rover to a range rod.
- 5. Verify rod height and prism to GPS rover distance offset.
- 6. Create a new job file in the data collector.
- 7. Link previous control survey point coordinates to the new topographic survey file.
- 8. Start/initialize the GPS base station over a known control point.
- 9. Start/initialize the GPS rover for RTK survey.
- 10. Perform station establishment with the optical instrument.
- 11. Verify that the data collector is in integrated survey mode.
- 12. Initialize for topographic data collection.
- 13. Measure/record topographic and plainmetric data.
- 14. Assign priorities to observations.
- 15. Perform surface scan with the optical instrument.
- 16. Download/import topographic data into the survey software.
- 17. Draft linework to collected points.
- 18. Assign blocks to features collected.
- 19. Produce a contoured site plan per specifications.
- 20. Print or plot finished project site plan.

#### **REFERENCES:**

- 1. FM 3-34.331 Topographic Surveying
- 2. MCRP 4-11B Environmental Considerations
- 3. NAVEDTRA 10696 Engineer Aid 3
- 4. OEM (TRIMBLE R-8 User's Manual) TRIMBLE R-8 User's Manual
- 5. OEM (TRIMBLE S6 User's Manual) TRIMBLE S6 User's Manual
- 6. OEM Trimble Survey Controller User Guide
- 7. TM 3-34.55 Construction Surveying
- 8. TM 5-6675-332-10 Operators Manual, Automated Integrated Survey Instrument (AISI)

1361-SRVY-1006: Adjust collected field data

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 3 months

MOS PERFORMING: 1361

BILLETS: Engineer Assistant

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a survey set (G.P.), collected survey field data, and references.

STANDARD: Accurately representing existing terrain features.

#### PERFORMANCE STEPS:

- 1. Connect the data collector device to the computer.
- 2. Run hardware synchronization.
- 3. Download the collected field data to the software program.
- 4. Edit keyed in data.
- 5. Run automatic drafting from points feature.
- 6. Edit drawing for errors or appearance using data editor.
- 7. Produce a contoured site plan per specifications.

#### **REFERENCES:**

- 1. MCRP 4-11B Environmental Considerations
- 2. OEM (Terra Model User's Manual) Terra Model User's Manual
- 3. OEM Trimble Survey Controller User Guide
- 4. TM 3-34.55 Construction Surveying
- 5. TM 5-6675-332-10 Operators Manual, Automated Integrated Survey Instrument (AISI)

1361-SRVY-1007: Create computer-aided civil drawings

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 3 months

MOS PERFORMING: 1361

BILLETS: Engineer Assistant

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

 $\underline{\text{CONDITION}}$ : Provided a survey set (G.P.), adjusted field data file, a completed site plan drawing, written project specifications, a printer or plotter, and references.

**STANDARD:** That conforms to project specifications, design sketches, and American National Standards Institute (ANSI) guidelines.

#### PERFORMANCE STEPS:

- 1. Review written project specifications and design sketches.
- 2. Open project site plan file.
- 3. Perform horizontal design per specifications.
- 4. Create cross section drawings.
- 5. Create a plan and profile drawing.
- 6. Create a contoured plot plan.

- 7. Print earthwork volume readouts.
- 8. Create a civil plan per specifications.
- 9. Print or plot the civil plan drawings.

## REFERENCES:

- 1. ANSI A-A-52034A Drafting
- 2. FM 5-553 General Drafting
- 3. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 4. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 5. MCRP 4-11B Environmental Considerations
- 6. NAVEDTRA 10696 Engineer Aid 3
- 7. OEM (Terra Model User's Manual) Terra Model User's Manual
- 8. TM 5-581B Construction Drafting
- 9. TM 5-6675-332-10 Operators Manual, Automated Integrated Survey Instrument (AISI)

1361-SRVY-1008: Layout project using optical equipment

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 3 months

MOS PERFORMING: 1361

**BILLETS:** Engineer Assistant

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided written project design specifications, a survey set (G.P.), a design coordinate file, class IV, and references.

**STANDARD:** To the third order of accuracy.

# PERFORMANCE STEPS:

- 1. Connect the data collector device to computer.
- 2. Upload design data to the data collector device.
- 3. Verify design data file was uploaded to the data collector.
- 4. Link a control point coordinate listing to the layout job file, as necessary.
- 5. Assemble the total station instrument.
- 6. Open uploaded stakeout file.
- 7. Perform station establishment.
- 8. Stake-out project design points.
- 9. Mark alignment and grade stakes.
- 10. Check earthwork elevations from design elevations.

- 1. FM 3-34.331 Topographic Surveying
- 2. MCRP 4-11B Environmental Considerations
- 3. NAVEDTRA 10696 Engineer Aid 3

- 4. OEM (TRIMBLE S6 User's Manual) TRIMBLE S6 User's Manual
- 5. OEM Trimble Survey Controller User Guide
- 6. TM 3-34.55 Construction Surveying
- 7. TM 5-581B Construction Drafting
- 8. TM 5-6675-332-10 Operators Manual, Automated Integrated Survey Instrument (AISI)

1361-SRVY-1009: Layout project using GPS equipment

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 3 months

MOS PERFORMING: 1361

BILLETS: Engineer Assistant

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

 $\underline{\text{CONDITION}}$ : Provided written project design specifications, survey set (G.P.), class IV, and references.

STANDARD: To the third order of accuracy.

### PERFORMANCE STEPS:

- 1. Connect the data collector device to the computer.
- 2. Upload design data to the data collector device.
- 3. Verify design data file was uploaded to the data collector.
- 4. Link a control point coordinate listing to the stakeout job file, as necessary.
- 5. Assemble GPS surveying system.
- 6. Start/initialize the GPS base station over a known control point using  $\ensuremath{\mathtt{RTK}}.$
- 7. Start/initialize GPS rover RTK.
- 8. Open uploaded stakeout job file.
- 9. Stake-out project design points.
- 10. Mark alignment and grade stakes.
- 11. Check earthwork elevations from design elevations.

- 1. FM 3-34.331 Topographic Surveying
- 2. FM 5-232 Elements of Surveying
- 3. MCRP 4-11B Environmental Considerations
- 4. NAVEDTRA 10696 Engineer Aid 3
- 5. OEM (TRIMBLE R-8 User's Manual) TRIMBLE R-8 User's Manual
- 6. OEM Trimble Survey Controller User Guide
- 7. TM 3-34.55 Construction Surveying
- 8. TM 5-6675-332-10 Operators Manual, Automated Integrated Survey Instrument (AISI)

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1361-SRVY-1010: Layout a project using integrated GPS and optical equipment

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 3 months

MOS PERFORMING: 1361

BILLETS: Engineer Assistant

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

 $\overline{\text{CONDITION}}$ : Provided written project design specifications, survey set  $\overline{\text{(G.P.)}}$ , class IV, and references.

STANDARD: To the third order of accuracy.

# PERFORMANCE STEPS:

- 1. Connect the data collector device to computer.
- 2. Upload design data to the data collector device.
- 3. Verify design data was uploaded to the data collector.
- 4. Link a control point coordinate listing to the stakeout job file, as necessary.
- 5. Assemble GPS surveying system.
- 6. Start/initialize the GPS base station over a known control point using  $\mathtt{RTK}$ .
- 7. Start/initialize GPS rover in RTK.
- 8. Assemble the total station instrument.
- 9. Perform station establishment with the total station and backsight.
- 10. Verify that the data collector is in the integrated survey mode.
- 11. Initialize data collector for stakeout mode.
- 12. Stake-out project design points.
- 13. Mark alignment and grade stakes.
- 14. Check earthwork elevations from design elevations.

## REFERENCES:

- 1. FM 3-34.331 Topographic Surveying
- 2. MCRP 4-11B Environmental Considerations
- 3. NAVEDTRA 10696 Engineer Aid 3
- 4. OEM (TRIMBLE R-8 User's Manual) TRIMBLE R-8 User's Manual
- 5. OEM (TRIMBLE S6 User's Manual) TRIMBLE S6 User's Manual
- 6. OEM Trimble Survey Controller User Guide
- 7. TM 3-34.55 Construction Surveying
- 8. TM 5-6675-332-10 Operators Manual, Automated Integrated Survey Instrument (AISI)

<u>1361-SRVY-1011</u>: Perform differential elevation leveling using an autolevel/laser level

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 3 months

MOS PERFORMING: 1361

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**BILLETS:** Engineer Assistant

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided written project specifications, a project site, a survey set (G.P.), a survey data book, and references.

STANDARD: Setting project elevations to within 0.02' difference.

#### PERFORMANCE STEPS:

- 1. Review project plans and specifications.
- 2. Set up the autolevel.
- 3. Set up/initialize the laser level.
- 4. Assemble the laser level receiver to the grade rod.
- 5. Identify location for a backsight control station.
- 6. Measure the backsight rod reading.
- 7. Calculate/record the elevation of the backsight.
- 8. Measure the foresight rod readings.
- 9. Calculate/record elevations of the foresights.
- 10. Construct batter boards, as necessary.
- 11. Mark batter boards.
- 12. Run string lines to guide form placement, as necessary.
- 13. Provide differences in elevations of the project to project manager and heavy equipment operators.
- 14. Re-measure/record foresight rod readings, as necessary, during earthwork operations.
- 15. Re-mark batter boards, as necessary.
- 16. Re-run string lines to guide project, as necessary.

## REFERENCES:

- 1. FM 3-34.331 Topographic Surveying
- 2. NAVEDTRA 10696 Engineer Aid 3
- 3. OEM Leica NA-24 User's Manual
- 4. OEM Nikon User's Manual
- 5. OEM Spectra Precision User's Manual
- 6. TM 5-232 Elements of Construction Surveying

1361-SRVY-1012: Prepare Grade Control System (GCS)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

MOS PERFORMING: 1361

BILLETS: Engineer Assistant

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a survey set general purpose (G.P.), completed horizontal

construction design, data transfer device, corresponding heavy equipment and references.

**STANDARD:** Integrating design data into GCS to guide construction quality control.

#### PERFORMANCE STEPS:

- 1. Validate civil design of horizontal project.
- 2. Use applicable grade control software (Trimble SiteVision).
- 3. Import design data into grade control software.
- 4. Export/upload design data onto memory card.
- 5. Verify exported design data extension files in the memory card.
- 6. Provide control point coordinates (Lat/Long, Elevation) to heavy equipment.
- 7. Assist engineer equipment operator in GPS assembly/communication.
- 8. Assist engineer equipment operator in blade calibration.

## **REFERENCES:**

- 1. MCRP 3-17.7I Earthmoving Operations
- 2. OEM Trimble TerraModel Users Guide
- 3. OEM (Grade Control System User's Manual) GCS User's Manual
- 4. OEM Trimble Survey Contoller User Guide
- 5. Trimble 43442-10-ENG SiteVision Office Getting Started Guide ver 7.\_
- 6. Trimble 5900-06-ENG GCS900 Operators Manual ver 11.\_
- 7. Trimble Navigation Ltd. Trimble Survey Controller Ver 12.\_ Help

1361-SRVY-1013: Perform hasty soil analysis

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

**MOS PERFORMING:** 1361, 1371

BILLETS: Engineer Assistant

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an unidentified soil sample, an SL-3 complete soil test kit and references.

**STANDARD:** To determine a two-letter USCS classification, CBR, and moisture content.

#### PERFORMANCE STEPS:

- 1. Obtain a soil sample.
- 2. Perform a visual examination of the soil.
- 3. Separate gravel.
- 4. Conduct field identification tests on the -40 material.
- 5. Determine the USCS classification.
- 6. Determine the CBR.
- 7. Determine the moisture content.

8. Record/report results.

### **REFERENCES:**

- 1. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 2. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 3. MCRP 3-17.7F Project Management
- 4. MCRP 3-17.7G Military Soils Engineering
- 5. MCRP 3-17.7H Materials Testing
- 6. MCRP 3-17.7I Earthmoving Operations
- 7. MCRP 3-17A Engineering Field Data
- 8. MCRP 3-17B Engineer Forms and Reports
- 9. MCWP 3-17 Engineering Operations

20004. 4000-LEVEL EVENTS

1361-SRVY-2001: Design a horizontal construction project

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

MOS PERFORMING: 1361

BILLETS: Engineer Assistant

GRADES: SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

 $\underline{\text{CONDITION}}$ : Provided a horizontal construction mission, a scientific calculator, a survey set (G.P.), soil test set, a computer, software applications, and references.

**STANDARD:** That meets construction mission requirements.

# PERFORMANCE STEPS:

- 1. Review the horizontal construction mission.
- 2. Perform a project site reconnaissance.
- 3. Perform hasty soil analysis.
- 4. Calculate drainage system requirements.
- 5. Identify structural dimensions.
- 6. Design the horizontal alignments for the project.
- 7. Design the vertical alignments for the project.
- 8. Balance earthwork volumes for the project.
- 9. Develop finished design sketches.
- 10. Create project design specifications.
- 11. Supervise the development of finished design drawings.
- 12. Supervise the layout of the project site.
- 13. Create as-built drawings.

# REFERENCES:

1. ANSI A-A-52034A Drafting

- 2. FM 5-335 Drainage
- 3. FM 5-472 Materials Testing
- 4. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 5. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 6. MCRP 3-17A Engineer Field Data
- 7. OEM (AutoCAD User's Manual) AutoCAD User's Manual
- 8. OEM (Terra Model User's Manual) Terra Model User's Manual
- 9. TM 3-34.55 Construction Surveying
- 10. TM 5-820-4 Drainage for Areas Other Than Airfields

1361-SRVY-2002: Prepare Grade Control System (GCS)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

MOS PERFORMING: 1361

BILLETS: Engineer Assistant

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a survey set general purpose (G.P.), completed horizontal construction design, data transfer device, corresponding heavy equipment and references.

**STANDARD:** To integrating design data into GCS to guide construction quality control.

#### PERFORMANCE STEPS:

- 1. Complete a civil design project.
- 2. Provide alignment baseline for Laser Leveling operations as necessary.
- 3. Validate design slopes of the project for Laser Leveling operations as necessary.
- 4. Supervise the importing of design data into grade control software.
- 5. Supervise the uploading of design data unto a memory card.
- 6. Validate uploaded design data extension files needed by the engineer equipment operators.
- 7. Validate control point coordinates for GPS Base setup.
- 8. Assist Engineer Equipment Operator in GPS Base station coordinate (Latitude, Longitude, Elevation) input.
- 9. Assist in communication establishment between GPS Base and GPS rover attached to the engineer equipment.
- 10. Assist in laser level assembly and setup.
- 11. Supervise correct orientation of laser level equipment in relation to project.
- 12. Assist in communication establishment between laser transmitter and receiver attached to the engineer equipment.
- 13. Provide quality control between earthmoving progress and approved design slopes and elevations.

#### **REFERENCES:**

- 1. MCRP 3-17.7I Earthmoving Operations
- 2. OEM Trimble Terra Model Users Guide
- 3. OEM (Grade Control System User's Manual) GCS User's Manual
- 4. OEM Trimble Survey Controller User Guide
- 5. Trimble 43442-10-ENG Site Vision Office Getting Started Guide Ver 7.
- 6. Trimble 5900-06-ENG GCS900 Operators Manual Ver 11.\_
- 7. Trimble Navigation Ltd. Trimble Survey Controller Ver 12.\_ Help

1361-SRVY-2003: Design a vertical construction project

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

MOS PERFORMING: 1361

BILLETS: Engineer Assistant

GRADES: SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a vertical construction mission, a scientific calculator, a survey set (G.P.), soil test set, computer, software applications and references.

STANDARD: To safely support all calculated loads.

## PERFORMANCE STEPS:

- 1. Review the vertical construction mission.
- 2. Perform a project site reconnaissance, as necessary.
- 3. Perform hasty soil analysis, as necessary.
- 4. Calculate the structure's live and dead loads.
- 5. Design the structural foundation requirements.
- 6. Design the structural framing requirements.
- 7. Identify finish construction material requirements.
- 8. Produce finished design plans.
- 9. Create project design specifications.

- 1. ANSI A-A-52034A Drafting
- 2. FM 5-553 General Drafting
- 3. MCRP 3-17.7C Carpentry
- 4. MCRP 3-17.7D Concrete and Masonry
- 5. MCRP 3-17.7E Plumbing, Pipe Fitting, and Sewerage
- 6. MCRP 3-17.7H Materials Testing
- 7. MCRP 3-17A Engineering Field Data
- 8. MCWP 3-17.7 General Engineering
- 9. NAVEDTRA 10696 Engineer Aid 3
- 10. TM 5-581B Construction Drafting
- 11. TM 5-704 Construction Print Reading in the Field

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1361-SRVY-2004: Compute a project bill of materials

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1361

BILLETS: Engineer Assistant

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a vertical construction mission, a scientific calculator, a computer, software applications, and references.

STANDARD: Accounting for all Class IV quantities.

## PERFORMANCE STEPS:

- 1. Review project mission, project specifications, and design drawings.
- 2. Calculate concrete quantities.
- 3. Calculate concrete reinforcement quantities.
- 4. Calculate concrete form work quantities
- 5. Calculate masonry quantities.
- 6. Calculate board, lumber, and timber quantities.
- 7. Calculate fastener quantities.
- 8. Calculate hardware quantities.
- 9. Calculate finish material quantities.
- 10. Calculate electrical fixture quantities.
- 11. Calculate plumbing fixture quantities.
- 12. Produce a consolidated project bill of materials.
- 13. Research material costs.
- 14. Submit a completed bill of materials for procurement.

#### **REFERENCES:**

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7D Concrete and Masonry
- 3. MCRP 3-17.7F Project Management
- 4. NAVFAC P-405 Seabee Planner's and Estimator's Handbook
- 5. TM 5-581B Construction Drafting
- 6. TM 5-704 Construction Print Reading in the Field

1361-SRVY-2005: Implement project planning methods

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

MOS PERFORMING: 1361

BILLETS: Engineer Assistant

GRADES: SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided a project mission, written project specifications, finished design drawings, a completed bill of materials, a scientific calculator, a computer, software applications, a printer, and the references.

**STANDARD:** Detailing all personnel, equipment, and materials necessary to accomplish the mission while establishing a defined duration for each subtask and the overall project/operation and graphically depict the schedule.

#### PERFORMANCE STEPS:

- Review project mission, written project specifications, and design drawings.
- 2. Perform a project site reconnaissance, as necessary.
- 3. Determine work activity.
- 4. Determine the logical sequence and inter-relationship of work activities.
- 5. Identify activity resource requirements.
- 6. Calculate activity durations.
- 7. Establish project schedule settings.
- 8. Input the project activities with precedence order.
- 9. Input activity durations.
- 10. Input activity resource requirements.
- 11. Adjust the project schedule as necessary.
- 12. Print a network diagram.
- 13. Print a project activity report.
- 14. Print a resource schedule.
- 15. Brief the project officer.
- 16. Supervise the work activities.

## REFERENCES:

- 1. MCRP 3-17.7F Project Management
- 2. NAVFAC P-405 Seabee Planner's and Estimator's Handbook

1361-ADMN-2001: Control publications

**EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months** 

MOS PERFORMING: 1361

**BILLETS:** Engineer Assistant

**GRADES:** SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** With unit Publications Listing (PL) and Table of Organization and Equipment (T/0&E), access to publications websites and management systems, and references.

**STANDARD:** Ensuring publications are available to maintain the section's operational capabilities and readiness.

# PERFORMANCE STEPS:

1. Review the references.

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- 2. Identify publication requirements based on mission and T/O&E.
- 3. Audit section publications library.
- 4. Validate on-hand publications inventory.
- 5. Inspect section library for missing or outdated publications.
- 6. Verify that published changes are made to publications.
- 7. Evaluate control procedures.
- 8. Evaluate NAVMC 10772 procedures.
- 9. Correct deficiencies.

#### REFERENCES:

- 1. MCO 5215.1\_ Marine Corps Directives Management Program
- 2. MCO 5600.31\_ Marine Corps Printing and Publishing Regulations
- 3. MCO P4790.2 MIMMS Field Procedures Manual
- 4. MCO P5215.17\_ The Marine Corps Technical Publications System
- 5. NAVMC 2761 Catalog of Publications
- 6. UNIT SOP Unit's Standing Operating Procedures

1361-ADMN-2002: Initiate maintenance actions

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

MOS PERFORMING: 1361

BILLETS: Engineer Assistant

GRADES: CPL, SGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a requirement, data, and the references.

STANDARD: Per the references.

# PERFORMANCE STEPS:

- 1. Review the references.
- 2. Review equipment technical manual to obtain maintenance information.
- 3. Initiate service request.
- 4. Review tasks and parts requirements.

### **REFERENCES:**

- 1. MCO P4790.2\_ MIMMS Field Procedures Manual
- 2. TI 4733-OD/1\_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
- 3. TI 4733-OD/21\_ Survey Instrument Calibration Program (SICP)
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. UM 4790-5 User's Manual MIMMS
- 6. UNIT SOP Unit's Standing Operating Procedures

1361-ADMN-2003: Manage maintenance related programs

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EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

MOS PERFORMING: 1361

BILLETS: Engineer Assistant

GRADES: SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Provided maintenance resources, local maintenance directives, and the reference.

STANDARD: To support mission requirements in accordance with MCO P4790.2\_.

## PERFORMANCE STEPS:

- 1. Review the references.
- 2. Provide input to the Maintenance Management SOP (MMSOP).
- 3. Validate modification control program.
- 4. Validate calibration control program.
- 5. Monitor Corrective Maintenance (CM) program.
- 6. Monitor Preventive Maintenance (PM) program.
- 7. Plan the use of maintenance resources.
- 8. Organize the use of maintenance resources.
- 9. Coordinate the use of maintenance resources.
- 10. Conduct internal inspections.

#### **REFERENCES:**

- 1. DLA Customer Assistance Handbook
- 2. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
- 3. MCO 4855.10\_ Product Quality Deficiency Report (PQDR)
- 4. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 5. MCO P4733.1\_ Marine Corps TMDE Calibration and Maintenance Program
- 6. MCO P4790.2\_ MIMMS Field Procedures Manual
- 7. TI 4733-OD/1\_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
- 8. TM 4700-15/1 Ground Equipment Record Procedures
- 9. UNIT SOP Unit's Standing Operating Procedures

1361-XENG-2002: Plan survey support for the construction of a base camp

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1361

BILLETS: Engineer Assistant

GRADES: SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a tactical situation, a map, operations order, commander's

intent, size of unit to occupy base camp, and references.

**STANDARD:** Providing the commander with precise GPS locations of all essential structures in support of the concept of operations and commander's intent.

## PERFORMANCE STEPS:

- 1. Analyze METT-T.
- 2. Assist in site reconnaissance.
- 3. Recommend expected levels of damage to existing structures from enemy bomb blasts.
- 4. Recommend blast mitigation measures, as required.
- 5. Provide detailed base camp survey data, as required.
- 6. Stake out locations for obstacles and barriers based on minimum safe standoff distances.
- 7. Determine drainage requirements.
- 8. Provide finished base camp plan.
- 9. Stake out locations for bunkers and shelters.
- 10. Conduct base layout.
- 11. Recommend incremental improvements per METT-T.
- 12. Provide as-built plans.

- 1. MCRP 3-17A Engineering Field Data
- 2. MCWP 3-17 Engineering Operations
- 3. MCWP 3-17.5 Combined Arms Countermobility Operations
- 4. MCWP 3-17.6 Survivability
- 5. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

# ENG & UTIL T&R MANUAL

# CHAPTER 21

# MOS 1371 INDIVIDUAL EVENTS

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#### CHAPTER 21

#### MOS 1371 INDIVIDUAL EVENTS

- 21000. PURPOSE. This chapter details the individual events that pertain to Combat Engineers. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful.
- **21001. EVENT CODING.** Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX-XXXX. This chapter utilizes the following methodology:
- a. Field one. This field represents the community. This chapter contains the following community codes:

Code Description
1371 Combat Engineers

b. Field two. This field represents the functional/duty area. This chapter contains the following functional/duty areas:

Code<br/>URPDescription<br/>Unit Readiness PlanningADMNAdministrationCMOBCountermobilityDEMODemolitionsEOPSEngineer OperationsHORZHorizontal ConstructionMANTMaintenanceMOBLMobilityRECNEngineer ReconnaissanceSURVSurvivabilityVERTVertical Construction

c. Field three. This field provides the level at which the event is accomplished and numerical sequencing of events. This chapter contains the following event levels:

Code 1000 Description Core Skills
2000 Core Plus Skills
2500 Core Plus Skills

# 21002. INDEX OF INDIVIDUAL EVENTS

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| 1371-DEMO-1002                   | Create craters and ditches using explosives                            | 21-9           |
| 1371-EOPS-1001                   | Construct concrete forms                                               | 21-10          |
| 1371-EOPS-1002                   | Operate a chainsaw                                                     | 21-10          |
| 1371-EOPS-1003                   | Fell standing timber                                                   | 21-11          |
| 1371-EOPS-1004                   | Operate the 260 CFM compressor                                         | 21-12          |
| 1371-EOPS-1005                   | Tie knots/lashings for rigging operations                              | 21-13          |
| 1371-EOPS-1006                   | Operate portable engineer tools                                        | 21-14          |
| 1371-HORZ-1001                   | Mix concrete                                                           | 21-15          |
| 1371-HORZ-1002                   | Place concrete                                                         | 21-15          |
| 1371-HORZ-1003                   | Finish concrete                                                        | 21-16          |
| 1371-MANT-1001                   | Maintain combat engineer chests, sets and kits                         | 21-17          |
| 1371-MOBL-1001                   | Breach non-explosive obstacles                                         | 21-17          |
| 1371-MOBL-1002                   | Operate handheld detectors                                             | 21-18          |
| 1371-MOBL-1003                   | Breach explosive obstacles/hazards                                     | 21-19          |
| 1371-MOBL-1004                   | Employ a Medium Girder Bridge (MGB)                                    | 21-20          |
| 1371-MOBL-1005                   | Employ the Improved Ribbon Bridge (IRB)/Raft                           | 21-21          |
| 1371-MOBL-1006                   | Employ the MK 153 SMAW                                                 | 21-22          |
| 1371-RECN-1001                   | Obtain critical information for engineer                               | 21-23          |
|                                  | reconnaissance                                                         |                |
| 1371-SURV-1001                   | Construct survivability positions                                      | 21-24          |
| 1371-VERT-1001                   | Cut construction material to dimension                                 | 21-25          |
| 1371-VERT-1002                   | Place lumber                                                           | 21-25          |
| 1371-VERT-1003                   | Lay concrete block                                                     | 21-26          |
| 1371-VERT-1004                   | Place timber                                                           | 21-27          |
|                                  | 2000-LEVEL EVENTS                                                      |                |
| URP-DEVL-2003                    | Coordinate Unit Training (L)                                           | 21-28          |
| URP-EVAL-2004                    | Assess Unit Readiness (L)                                              | 21-29          |
| 1371-CMOB-2001                   | Recommend obstacle placement                                           | 21-30          |
| 1371-CMOB-2003                   | Employ booby traps                                                     | 21-30          |
| 1371-CMOB-2004                   | Destroy bridges using explosives                                       | 21-32          |
| 1371-DEMO-2001                   | Engage targets with expedient demolitions                              | 21-32          |
| 1371-DEMO-2002                   | Use specialized explosives                                             | 21-34          |
| 1371-DEMO-2003                   | Maintain a Breacher's Logbook                                          | 21-35          |
| 1371-DEMO-2004                   | Compute the Net Explosive Weight (NEW)                                 | 21-35          |
| 1371-DEMO-2005                   | Take appropriate protective measures                                   | 21-36          |
| 1371-DEMO-2006                   | Identify building construction                                         | 21-36          |
| 1371-DEMO-2007                   | Employ a doughnut charge                                               | 21-37          |
| 1371-DEMO-2008                   | Employ a window charge                                                 | 21-38          |
| 1371-DEMO-2009                   | Employ a water charge                                                  | 21-39<br>21-39 |
| 1371-DEMO-2010<br>1371-DEMO-2011 | Employ an oval charge                                                  |                |
| 1371-DEMO-2011<br>1371-DEMO-2012 | Employ a Uli knot slider charge Employ a detonating cord linear charge | 21-40          |
| 1371-DEMO-2012<br>1371-DEMO-2013 | Employ a deconating cord linear charge  Employ a concrete charge       | 21-41          |
| 1371-DEMO-2013                   | Employ a concrete charge                                               | 21-42          |
| 1371-DEMO-2014<br>1371-EOPS-2004 | Repair damaged airfields (ADR)                                         | 21-43          |
| 1371-EOPS-2004<br>1371-EOPS-2006 | Employ construction equipment kits                                     | 21-44          |
| 1371-EOPS-2008                   | Conduct chainsaw operations                                            | 21-45          |
| 1371-EOPS-2008                   | Conduct rigging                                                        | 21-40          |
| 1371-EOPS-2009<br>1371-HORZ-2001 | Perform hasty soil analysis                                            | 21-47          |
| 1371-HORZ-2001<br>1371-HORZ-2002 | Design expedient drainage structures                                   | 21-47          |
| 1371-HORZ-2002                   | Construct expedient drainage structures                                | 21-48          |
| 1371-HORZ-2003                   | Design a concrete slab on grade                                        | 21-48          |
| 13,1 110112 2004                 | Design a constell stab on grade                                        | 21 TJ          |

| 1371-MANT-2001 | Maintain the unit's engineer equipment, chests, sets                       | 21-50 |
|----------------|----------------------------------------------------------------------------|-------|
|                | and kits maintenance programs                                              |       |
| 1371-MOBL-2001 | Design Tactical Landing Zones (TLZ)/Expeditionary Airfields (EAF)          | 21-51 |
| 1371-MOBL-2002 | Manage employment of the Medium Girder Bridge (MGB)                        | 21-51 |
| 1371-MOBL-2003 | Operate Bridge Erection Boat (BEB)                                         | 21-52 |
| 1371-MOBL-2004 | Manage the employment of the Improved Ribbon Bridge (IRB)                  | 21-53 |
| 1371-MOBL-2005 | Manage military rafting operations                                         | 21-54 |
| 1371-MOBL-2010 | Employ M58/M68 linear demolition charge                                    | 21-55 |
| 1371-MOBL-2011 | Employ the APOBS                                                           | 21-56 |
| 1371-MOBL-2012 | Conduct obstacle breaching operations                                      | 21-57 |
| 1371-MOBL-2013 | Engage stationary targets with the shotgun                                 | 21-58 |
| 1371-MOBL-2014 | Perform select shot drills with the shotgun                                | 21-59 |
| 1371-MOBL-2015 | Qualify with the shotgun                                                   | 21-60 |
| 1371-MOBL-2016 | Conduct ballistic breach                                                   | 21-61 |
| 1371-MOBL-2018 | Lead a dismounted route sweep                                              | 21-62 |
| 1371-MOBL-2019 | Perform manual breaching                                                   | 21-63 |
| 1371-MOBL-2022 | Identify Explosive Hazards (EH)                                            | 21-63 |
| 1371-MOBL-2023 | Reduce Explosive Hazards (EH)                                              | 21-64 |
| 1371-MOBL-2024 | Operate the Route Clearance Medium Mine Protected Vehicle (MMPV)           | 21-65 |
| 1371-MOBL-2025 | Operate the Route Clearance Mine Protected Clearance                       | 21-66 |
|                | Vehicle (MPCV)                                                             |       |
| 1371-MOBL-2026 | Operate the Route Clearance Vehicle Mounted Mine Detector (VMMD) Vehicle   | 21-67 |
| 1371-MOBL-2027 | Operate the Route Clearance Vehicle's Government Furnished Equipment (GFE) | 21-68 |
| 1371-MOBL-2028 | Operate a Combat Rubber Reconnaissance Craft (CRRC)                        | 21-69 |
| 1371-MOBL-2035 | Operate a robot                                                            | 21-70 |
| 1371-RECN-2001 | Conduct engineer reconnaissance                                            | 21-71 |
| 1371-RECN-2002 | Conduct demolition reconnaissance                                          | 21-72 |
| 1371-SURV-2001 | Design survivability positions                                             | 21-72 |
| 1371-VERT-2002 | Layout wood frame structure                                                | 21-73 |
|                | 2500-LEVEL EVENTS                                                          |       |
| 1371-ADMN-2501 | Deliver a military brief                                                   | 21-74 |
| 1371-ADMN-2502 | Support the Marine Corps Capabilities Based                                | 21-74 |
|                | Assessment (MCCBA) Process                                                 |       |
| 1371-CMOB-2501 | Prepare an obstacle plan                                                   | 21-75 |
| 1371-DEMO-2501 | Prepare demolition target folder                                           | 21-75 |
| 1371-EOPS-2501 | Establish operations center                                                | 21-76 |
| 1371-EOPS-2502 | Produce an engineer estimate                                               | 21-76 |
| 1371-EOPS-2503 | Analyze engineer form/report(s)                                            | 21-77 |
| 1371-EOPS-2504 | Design concrete structures                                                 | 21-78 |
| 1371-EOPS-2505 | Estimate equipment production rates                                        | 21-78 |
| 1371-EOPS-2506 | Establish project/operation schedules                                      | 21-79 |
| 1371-EOPS-2507 | Coordinate joint/coalition support for engineer projects/operations        | 21-79 |
| 1371-EOPS-2508 | Plan a base camp                                                           | 21-80 |
| 1371-EOPS-2509 | Plan Aviation Ground Support (AGS)                                         | 21-81 |
| 1371-EOPS-2510 | Participate in construction programs management                            | 21-81 |
| 1371-HORZ-2501 | Determine required concrete mixture                                        | 21-82 |
| 1371-MANT-2501 | Direct the maintenance management of the unit's assigned equipment         | 21-82 |
| 1371-MOBL-2501 | Determine military rafting requirements                                    | 21-83 |
|                | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1                                      |       |

| 1371-MOBL-2502 | Determine tactical bridging assets required to span a | 21-83 |
|----------------|-------------------------------------------------------|-------|
|                | gap                                                   |       |
| 1371-MOBL-2503 | Plan engineer aspects of gap crossing operations      | 21-84 |
| 1371-MOBL-2504 | Design a non-standard bridge                          | 21-85 |
| 1371-MOBL-2505 | Plan breaching of a complex obstacles                 | 21-85 |
| 1371-MOBL-2506 | Plan clearing operations                              | 21-86 |
| 1371-MOBL-2507 | Lead clearing operations                              | 21-87 |
| 1371-MOBL-2508 | Plan military road construction                       | 21-87 |
| 1371-SURV-2501 | Prepare a survivability plan                          | 21-88 |
| 1371-VERT-2501 | Plan wood frame structure                             | 21-89 |

#### 21003. 1000-LEVEL EVENTS

1371-CMOB-1001: Construct wire obstacles

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given barbed wire, concertina wire, pickets, type of entanglement required, obstacle intent, tools, tie wire and personal protective equipment (PPE).

**STANDARD:** Ensuring obstacles are constructed to design specifications, tied into existing natural or other man made obstacles so enemy movement/maneuvers are fixed, turned, blocked or disrupted.

#### PERFORMANCE STEPS:

- 1. Review requirements.
- 2. Lay out pickets.
- 3. Install pickets.
- 4. Lay out wire.
- 5. Install wire.

#### **REFERENCES:**

- 1. MCRP 3-17A Engineering Field Data
- 2. MCWP 3-17.5 Combined Arms Countermobility Operations

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17413 Field Training Area

**EQUIPMENT:** Pioneer Kit

MATERIAL: Concertina wire, Barbed wire, U-Shaped pickets (small/large),

Tie wire

UNITS/PERSONNEL: Range OIC, Range RSO, Corpsman

1371-CMOB-1002: Construct field expedient obstacles

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**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a type of obstacle required, obstacle intent, engineer tools and equipment, Class IV, Class V, expedient obstacle material, personal protective equipment (PPE), and an area to construct the obstacle.

<u>STANDARD</u>: Ensuring obstacles are constructed to design specifications, tie into existing natural or other man made obstacles so enemy movement/maneuvers are fixed, turned, blocked or disrupted.

# PERFORMANCE STEPS:

- 1. Review requirements.
- 2. Construct obstacles with engineer tools (if applicable).
- 3. Construct an obstacle using explosives (if applicable).
- 4. Construct improvised obstacles (if applicable).
- 5. Improve as necessary.

## REFERENCES:

- 1. FM 3-06 Urban Operations
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17A Engineering Field Data
- 4. MCWP 3-17.5 Combined Arms Countermobility Operations
- 5. MCWP 3-17.6 Survivability Operations
- 6. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

## SUPPORT REQUIREMENTS:

# **ORDNANCE:**

| DODIC                                     | <u>Quantity</u>            |
|-------------------------------------------|----------------------------|
| L495 Flare, Surface Trip M49/A1 Series    | 1 flares per Marine        |
| M023 Chg, Demo Block M112 11/4 pound C4   | 2 charges per Marine       |
| M130 Cap, Blasting Electric M6            | 2 blasting caps per Marine |
| M131 Cap, Blasting Non-Electric M7        | 2 blasting caps per Marine |
| M456 Cord, Detonating PETN Type I Class E | 50 FT per Marine           |
| M591 Dynamite, Military M1                | 1 charges per Marine       |
| M670 Fuse, Blasting Time M700             | 25 FT per Marine           |
| MN08 Igniter, Time Blasting Fuse with Sho | 1 igniters per Marine      |
| MN52 Detonator, Percussion, NonElectric M | 1 Per per Marine           |

## RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17413 Field Training Area Facility Code 17962 MOUT Collective Training Facility (Small)

**EQUIPMENT:** Combat engineer equipment, tools and kits

<u>1371-CMOB-1003</u>: Employ explosive obstacles

**EVALUATION-CODED: NO SUSTAINMENT INTERVAL:** 3 months

**GRADES:** PVT, PFC, LCPL

## INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Given the proper authority, Class V, demolition tools and equipment, personal protective equipment (PPE), and references.

**STANDARD:** So that obstacles are emplaced and concealed according to the method of operation, the type of environment in which the obstacle is to be laid, and the type of ground cover available for camouflage; and result in the fixing, turning, blocking, or disrupting of enemy movement.

#### PERFORMANCE STEPS:

- 1. Review requirements.
- 2. Select the appropriate initiating device.
- 3. Construct an explosive obstacle (if applicable).
- 4. Select the location for emplacement.
- 5. Prepare location for emplacement.
- 6. Emplace the explosive obstacle.
- 7. Test fire circuitry (if applicable).
- 8. Arm the explosive obstacle (if required).
- 9. Camouflage the explosive obstacle (if applicable).
- 10. Inventory tools, equipment and safeties.
- 11. Recover safeties (if required).
- 12. Locate explosive obstacle.
- 13. Disarm the explosive obstacle (if required).
- 14. Recover the explosive obstacle.
- 15. Inventory all Class V and dispose of properly.
- 16. Return area to natural state (if required).

#### **REFERENCES:**

- 1. MCRP 3-17.2D Explosive Hazard Operations
- 2. MCRP 3-17.7L Explosives and Demolitions
- 3. MCRP 3-17A Engineering Field Data
- 4. MCWP 3-17.5 Combined Arms Countermobility Operations

# SUPPORT REQUIREMENTS:

#### ORDNANCE:

| DODIC                                     | Quantity                |
|-------------------------------------------|-------------------------|
| J007 Mine, Antipersonnel M18A1 with NonEl | 1 charges per Team      |
| K139 Mine, APERS Practice M68 w/Accessori | 6 mines per Team        |
| K143 Mine, APERS (Claymore)               | 1 charges per Team      |
| L495 Flare, Surface Trip M49/A1 Series    | 2 flares per Team       |
| M327 Coupling Base, Firing Device with Pr | 1 detonators per Marine |
| M456 Cord, Detonating PETN Type I Class E | 1 Roll per Team         |
| M757 Chg, Assembly Demo M183 Comp C4      | 1 charges per Team      |
| ML03 Firing Device, Demo MultiPurpose M14 | 1 detonators per Marine |
| MN52 Detonator, Percussion, NonElectric M | 1 Per per Team          |

RANGE/TRAINING AREA: Facility Code 17905 Mine Warfare Area

UNITS/PERSONNEL: Range OIC, Range RSO, Corpsman

OTHER SUPPORT REQUIREMENTS: Safety vehicle, Range communications (radio)

1371-DEMO-1001: Employ military explosives

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 3 months

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given appropriate Class V material, a demolition kit, target material, personal protective equipment (PPE), and references.

**STANDARD:** To ensure all charges are constructed according to the method of use and ensuring detonation while observing all safety procedures.

## PERFORMANCE STEPS:

- 1. Review requirements.
- 2. Acquire the necessary tools from demolitions kit(s).
- 3. Determine the type of military explosive(s) needed.
- 4. Acquire additional demolition accessories, (if required).
- 5. Calculate amount of explosives needed.
- 6. Build the explosive charge system.
- 7. Place the charge.
- 8. Detonate a charge using a non-electric initiation system.
- 9. Detonate a charge using an electric initiation system.
- 10. Detonate a demolition charge primed with a Det Cord firing system.
- 11. Confirm target reduction.

#### **REFERENCES:**

- 1. GTA 05-10-033 Demolition Card
- 2. MCRP 3-17.7L Explosives and Demolitions
- 3. MCRP 3-17A Engineering Field Data

## SUPPORT REQUIREMENTS:

#### **ORDNANCE:**

| DODIC                                     | Quantity                   |
|-------------------------------------------|----------------------------|
| M030 Chg, Demo Block TNT 1/4Pound         | 1 charges per Marine       |
| M032 Chg, Demo Block TNT 1Pound           | 1 charges per Marine       |
| M039 Chg, Demo Cratering 40Pound          | 1 charges per Team         |
| M130 Cap, Blasting Electric M6            | 1 blasting caps per Marine |
| M131 Cap, Blasting Non-Electric M7        | 1 blasting caps per Marine |
| M420 Chg, Demo Shaped M2 Series 15Pound   | 1 charges per Team         |
| M421 Chg, Demo Shaped M3 Series 40Pound   | 1 charges per Team         |
| M456 Cord, Detonating PETN Type I Class E | 35 FT per Marine           |
| M591 Dynamite, Military M1                | 2 charges per Team         |
| M670 Fuse, Blasting Time M700             | 10 FT per Marine           |
| M757 Chg, Assembly Demo M183 Comp C4      | 2 cases per Team           |
| ML03 Firing Device, Demo MultiPurpose M14 | 2 detonators per Team      |
| ML47 Cap, Blasting Non-Electric M11 with  | 6 blasting caps per Team   |
| MN08 Igniter, Time Blasting Fuse with Sho | 2 igniters per Marine      |
| MN52 Detonator, Percussion, NonElectric M | 4 detonators per Team      |
| MN88 Cap, Blasting, Non-Electric, M21 w/  | 3 Per per Team             |
|                                           |                            |

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: Squad Demolitions Kit

UNITS/PERSONNEL: Range OIC, Range RSO, Corpsman

OTHER SUPPORT REQUIREMENTS: Safety vehicle, Range communications (radio)

1371-DEMO-1002: Create craters and ditches using explosives

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 3 months

GRADES: PVT, PFC, LCPL, CPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given Class V material, a demolition kit, personal protective equipment (PPE), and references.

**STANDARD:** Ensuring that craters/ditches are the proper depth and width to fix, turn, block or disrupt enemy movement. If explosives are utilized to create drainage-type ditches, finished ditches will slope at a rate of 2-4 feet of depth per 100 feet of run.

#### PERFORMANCE STEPS:

- 1. Determine whether a crater or ditch is required.
- 2. Determine number of boreholes required.
- 3. Create boreholes.
- 4. Select charge(s).
- 5. Prime charge(s).
- 6. Tamp charge(s).
- 7. Initiate demolitions.

#### **REFERENCES:**

- 1. GTA 05-10-033 Demolition Card
- 2. MCRP 3-17.7L Explosives and Demolitions
- 3. MCRP 3-17A Engineering Field Data
- 4. MCWP 3-17.5 Combined Arms Countermobility Operations

## SUPPORT REQUIREMENTS:

# ORDNANCE:

| DODIC                                     | <u>Quantity</u>           |
|-------------------------------------------|---------------------------|
| M032 Chg, Demo Block TNT 1Pound           | 1 charges per Team        |
| M039 Chg, Demo Cratering 40Pound          | 1 charges per Team        |
| M130 Cap, Blasting Electric M6            | 4 blasting caps per Team  |
| M131 Cap, Blasting Non-Electric M7        | 12 blasting caps per Team |
| M420 Chg, Demo Shaped M2 Series 15Pound   | 1 charges per Team        |
| M421 Chg, Demo Shaped M3 Series 40Pound   | 1 charges per Team        |
| M456 Cord, Detonating PETN Type I Class E | 350 FT per Team           |
| M591 Dynamite, Military M1                | 4 charges per Marine      |
| M670 Fuse, Blasting Time M700             | 100 FT per Team           |
| M757 Chg, Assembly Demo M183 Comp C4      | 1 charges per Team        |
| MN08 Igniter, Time Blasting Fuse with Sho | 1 igniters per Marine     |
| MN14 Firing Device, Dual Mode MK54        | 3 detonators per Team     |
| MN88 Cap, Blasting, Non-Electric, M21 w/  | 1 Per Team                |

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: Squad Demolitions Kit, Pioneer Kit

UNITS/PERSONNEL: Range OIC, Range RSO, Corpsman

OTHER SUPPORT REQUIREMENTS: Safety Vehicle, Range communications (radio)

1371-EOPS-1001: Construct concrete forms

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**GRADES:** PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided specifications, a construction site, engineer tool kits, a power source, Class IV, and personal protective equipment (PPE).

STANDARD: To ensure formwork conforms to specifications.

#### PERFORMANCE STEPS:

- 1. Review the construction drawings, blueprints, and/or specifications.
- 2. Perform earthwork (as required).
- 3. Construct footing/slab forms.
- 4. Construct wall forms (as required).
- 5. Place reinforcement material per design specifications.
- 6. Apply releasing agent on forms prior to placing concrete.

#### **REFERENCES:**

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7D Concrete and Masonry
- 3. NAVPERS 0-486-20242-9 Basic Construction Techniques for Houses and Small Buildings

## SUPPORT REQUIREMENTS:

## RANGE/TRAINING AREA:

Facility Code 17330 Covered Training Area Facility Code 17413 Field Training Area

EQUIPMENT: Concrete Masonry kit, Carpenter's kit, Pioneer kit

MATERIAL: Lumber, fasteners, reinforcement material

UNITS/PERSONNEL: Corpsman

OTHER SUPPORT REQUIREMENTS: Electrical power requirements

1371-EOPS-1002: Operate a chainsaw

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: PVT, PFC, LCPL, CPL

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided a mission, chainsaw, tools, mixed fuel, bar oil, timber, and personal protective equipment (PPE).

**STANDARD:** To cut timber per mission requirements while adhering to all safety requirements.

#### PERFORMANCE STEPS:

- 1. Perform pre-operation checks and services on the chainsaw.
- 2. Don all PPE.
- 3. Perform start up procedures.
- 4. Operate chainsaw to cut timber, as required.
- 5. Perform shutdown procedures.
- 6. Perform post operation checks and services on the chainsaw.

#### **REFERENCES:**

- 1. Appropriate TM/Manufacture's Manual for Chainsaw
- 2. MCRP 3-17A Engineering Field Data
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.5 Combined Arms Countermobility Operations
- 5. MCWP 3-17.6 Survivability Operations
- 6. MCWP 3-17.8 Combined Arms Mobility Operations

#### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17413 Field Training Area

**EQUIPMENT:** Pioneer Kit

MATERIAL: Heavy timber or standing trees (3 inch diameter or larger)

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

## MISCELLANEOUS:

**SPECIAL PERSONNEL CERTS:** Licensed chainsaw operator per TM 11275-15/4 Engineer Equipment Licensing Manual.

1371-EOPS-1003: Fell standing timber

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**GRADES:** PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**STANDARD:** Ensuring the timber is completely separated from the trunk, while adhering to all safety requirements.

- 1. Review requirements.
- 2. Perform pre-operation checks and services.

- 3. Evaluate the standing timber, the surrounding area, and environmental conditions present.
- 4. Determine direction of fall.
- 5. Establish a safe area and an escape path.
- 6. Don all PPE.
- 7. Ensure non-essential personnel are in the safe area.
- 8. Utilize tools, supplies and/or equipment to fell the timber.
- 9. If tree does not fall completely, cease operations until tree can be mechanically felled.
- 10. Limb tree (if applicable).
- 11. Buck tree (if applicable).
- 12. Perform post-operation checks and services.

- 1. Appropriate TM/Manufacture's Manual for Chainsaw
- 2. MCRP 3-17A Engineering Field Data
- 3. MCWP 3-17.5 Combined Arms Countermobility Operations

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17413 Field Training Area

EQUIPMENT: Pioneer tool kit, mechanical equipment, rope, chain, winch, PPE

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Mechanical equipment (i.e., dozer)

## MISCELLANEOUS:

**SPECIAL PERSONNEL CERTS:** Licensed chainsaw operator per TM 11275-15/4 Engineer Equipment Licensing Manual.

1371-EOPS-1004: Operate the 260 CFM compressor

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

**GRADES:** PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a training area, fuel, a concrete slab, timber, tools, personal protective equipment (PPE), and reference.

**STANDARD:** Ensuring operation procedures are performed per the manufacturer's specifications.

- 1. Perform pre-operation checks and services.
- 2. Perform start up procedures.
- 3. Utilize components.
- 4. Change components.
- 5. Perform shut down procedures.
- 6. Perform post-operation checks and services.

1. TM 08917C-OI/1 260 CFM Compressor

#### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17413 Field Training Area

**EQUIPMENT:** 260 CFM, PPE

MATERIAL: Timber, concrete/asphalt structures

UNITS/PERSONNEL: Corpsman

## MISCELLANEOUS:

SPECIAL PERSONNEL CERTS: Licensed operator per TM 11275-15/4 Engineer Equipment Licensing Manual.

1371-EOPS-1005: Tie knots/lashings for rigging operations

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 3 months

**GRADES:** PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided rope/wire cable, specifications, items to be constructed, personal protective equipment (PPE), and references.

 $\underline{\mathtt{STANDARD}}$ : To meet construction design specifications per mission requirements.

## PERFORMANCE STEPS:

- 1. Review drawings or specifications.
- 2. Acquire necessary materials.
- 3. Tie appropriate knot to specification (if applicable).
- 4. Lash components together properly (if applicable).
- 5. Configure appropriate anchoring systems, as required.
- 6. Set up a block and tackle system, as required.

## **REFERENCES:**

- 1. MCRP 3-17.7J Rigging Techniques, Procedures, and Applications
- 2. MCRP 3-17A Engineering Field Data

# **SUPPORT REQUIREMENTS:**

## RANGE/TRAINING AREA:

Facility Code 17413 Field Training Area Facility Code 17921 Armored Vehicle Launch Bridge, Raft, And Ford Area

**EQUIPMENT:** B0100 Block and Tackle Kit, Marine Assault Climber's kit, rope, pulleys, wire cable

MATERIAL: Poles (timber)

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<u>1371-EOPS-1006</u>: Operate portable engineer tools

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**GRADES:** PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided design specifications, construction site, portable engineer tools, power source, personal protective equipment (PPE), and Class IV material.

**STANDARD:** According to TM/Manufacturers manual to meet the specific design specifications.

#### PERFORMANCE STEPS:

- 1. Review mission requirements.
- 2. Select proper site.
- 3. Acquire necessary materials.
- 4. Review specifications.
- 5. Select proper engineer tool.
- 6. Determine necessary safety measures.
- 7. Operate engineer tool.
- 8. Perform post operations PCMS.
- 9. Secure engineer tool.
- 10. Clean up site.

#### **REFERENCES:**

- 1. Appropriate TM/Manufacture's Manual for Power Tools
- 2. MCRP 3-17.7C Carpentry
- 3. MCRP 3-17.7D Concrete and Masonry
- 4. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools

## SUPPORT REQUIREMENTS:

#### RANGE/TRAINING AREA:

Facility Code 17330 Covered Training Area Facility Code 17413 Field Training Area

**EQUIPMENT:** Construction Shop Kit (TAMCN: B1942), Carpenter Kit (TAMCN: B2210), Pioneer Platoon Kit (TAMCN: B2250), Pioneer Squad Kit (TAMCN: B2260), Mason and Concrete Finishers Kit (TAMCN: B2370), Airfield Damage Repair Kit (TAMCN: B0039), PPE

MATERIAL: Class IV

UNITS/PERSONNEL: Corpsman

OTHER SUPPORT REQUIREMENTS: Electric power source

1371-HORZ-1001: Mix concrete

**EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months** 

**GRADES:** PVT, PFC, LCPL

# INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided specifications, a construction site, a concrete and masonry tool kit, sand, gravel, cement, a concrete mixer, personal protective equipment (PPE), a water source, and concrete forms.

STANDARD: To ensure concrete mixture conforms to design specifications.

# PERFORMANCE STEPS:

- 1. Batch dry materials per specifications.
- 2. Add water per specifications.
- 3. Mix concrete.
- 4. Perform slump test.
- 5. Perform post-operations checks and services.

#### **REFERENCES:**

- 1. MCRP 3-17.7D Concrete and Masonry
- 2. N/A Applicable operation and maintenance manual/guide

#### SUPPORT REQUIREMENTS:

# RANGE/TRAINING AREA:

Facility Code 17330 Covered Training Area Facility Code 17413 Field Training Area

EQUIPMENT: Concrete and Masonry kit, concrete mixer, Pioneer kit, PPE

MATERIAL: Portland cement, coarse and fine aggregate, ad-mixture

UNITS/PERSONNEL: Corpsman

OTHER SUPPORT REQUIREMENTS: Electrical and fuel requirements

1371-HORZ-1002: Place concrete

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

**GRADES:** PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided specifications, a construction site, a concrete and masonry tool kit, screed board(s), mixed concrete, and personal protective equipment (PPE).

STANDARD: To be placed evenly throughout the form per design specification.

- 1. Review the specifications.
- 2. Prepare the subgrade by moistening, as required.
- 3. Check forms.
- 4. Place concrete.
- 5. Consolidate the concrete.
- 6. Screed the concrete.
- 7. Perform post-operation checks and services.

1. MCRP 3-17.7D Concrete and Masonry

## SUPPORT REQUIREMENTS:

## RANGE/TRAINING AREA:

Facility Code 17330 Covered Training Area Facility Code 17413 Field Training Area

EQUIPMENT: Concrete and Masonry kit, concrete mixer, Pioneer kit, PPE

UNITS/PERSONNEL: Corpsman

OTHER SUPPORT REQUIREMENTS: Electrical and fuel requirements

1371-HORZ-1003: Finish concrete

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**GRADES:** PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided specifications, concrete and masonry tool kit, and freshly placed concrete.

STANDARD: To produce the desired finish per the specifications.

## PERFORMANCE STEPS:

- 1. Review the specifications.
- 2. Float the concrete.
- 3. Trowel the concrete, if required in the specifications.
- 4. Broom the concrete, if required in the specifications.
- 5. Employ curing method(s).
- 6. Strip forms (if applicable).

#### **REFERENCES:**

1. MCRP 3-17.7D Concrete and Masonry

## SUPPORT REQUIREMENTS:

## RANGE/TRAINING AREA:

Facility Code 17330 Covered Training Area Facility Code 17413 Field Training Area

EQUIPMENT: Concrete and Masonry kit

1371-MANT-1001: Maintain combat engineer chests, sets and kits

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: PVT, PFC, LCPL, CPL

# INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided an inventory sheet, cleaning materials, personal protective equipment (PPE), and references.

<u>STANDARD</u>: To ensure accountability/serviceability of all components and all unserviceable/missing items are identified for repair or replacement.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Conduct inventory of all items and components.
- 3. Inspect all items for serviceability.
- 4. Clean items and components.
- 5. Complete all necessary forms and reports.

#### **REFERENCES:**

- 1. Appropriate Reference Materials
- 2. MCO 4790.2\_ MIMMS Field Procedures Manual
- 3. TM 10209-10/1\_ Use and Care of Hand Tools and Measuring Tools

1371-MOBL-1001: Breach non-explosive obstacles

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 3 months

GRADES: PVT, PFC, LCPL, CPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a designated area with obstacle(s), engineer tools and equipment, Class V, personal protective equipment (PPE), and references.

**STANDARD:** To ensure friendly forces are not fixed, turned, blocked, nor disrupted by successfully reducing all non-explosive obstacles encountered.

# PERFORMANCE STEPS:

- 1. Locate the obstacle(s).
- 2. Identify obstacle(s).
- 3. Formulate plan to reduce obstacle(s).
- 4. Reduce the obstacle.
- 5. Mark the lane as required.

## REFERENCES:

- 1. GTA 05-10-033 Demolition Card
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCWP 3-17.3 MAGTF Breaching Operations
- 5. MCWP 3-17.8 Combined Arms Mobility Operations

#### SUPPORT REQUIREMENTS:

## **ORDNANCE:**

| DODIC     |                                | Quantity             |
|-----------|--------------------------------|----------------------|
| A075 Ctg, | 5.56mm Blank M200 Lkd          | 400 rounds per Team  |
| A080 Ctg, | 5.56mm Blank M200 Single Round | 90 rounds per Marine |
| Alll Ctg, | 7.62mm Blank M82 Lkd           | 200 rounds per Team  |

G940 Gren, Hand Green Smoke M18 1 grenades per Team G945 Gren, Hand Yellow Smoke M18 1 grenades per Team G982 Gren, Hand Smoke TA M83 1 grenades per Team L312 Signal, Illumination Ground White St 1 flares per Team L314 Signal, Illumination Ground Green St 1 flares per Team L495 Flare, Surface Trip M49/A1 Series 2 flares per Team 1 cases per Team M028 Demo Kit, Bangalore Torpedo M1A2 2 blasting caps per Team M130 Cap, Blasting Electric M6 M131 Cap, Blasting Non-Electric M7 4 blasting caps per Team M456 Cord, Detonating PETN Type I Class E  $\phantom{-}500$  FT per Team M670 Fuse, Blasting Time M700 35 FT per Team M757 Chg, Assembly Demo M183 Comp C4 2 cases per Team ML47 Cap, Blasting Non-Electric M11 with 3 blasting caps per Team MN08 Igniter, Time Blasting Fuse with Sho 8 igniters per Team MN52 Detonator, Percussion, NonElectric M 2 detonators per Team MN88 Cap, Blasting, Non-Electric, M21 w/ 1 blasting caps per Team

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: Squad Demolitions Kit

UNITS/PERSONNEL: Range OIC, Range RSO, Corpsman

OTHER SUPPORT REQUIREMENTS: Safety vehicle, Range communications (radio)

1371-MOBL-1002: Operate handheld detectors

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 3 months

**GRADES:** PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a mission, mine/metal detector, marking equipment, personal protective equipment (PPE), and references.

**STANDARD:** To ensure all explosive hazards in a lane, route, or area are located and marked for reduction with no injury to friendly personnel or damage to equipment.

## PERFORMANCE STEPS:

- 1. Identify detector to be used.
- 2. Unpack the detector.
- 3. Inventory the detector.
- 4. Assemble the detector.
- 5. Phase in the detector.
- 6. Employ proper sweeping techniques.
- 7. Locate and mark an object.
- 8. Identify the object as an explosive hazard.
- 9. Sweep for secondary explosive hazards.
- 10. Proof area after explosive hazard has been reduced.
- 11. Perform PMCS.
- 12. Disassemble and repack the detector.

#### **REFERENCES:**

- 1. MCRP 3-17.2D Explosive Hazard Operations
- 2. TM 11755A-OR Compact Metal Detector CEIA CMD
- 3. TM 12003B-OR/1 VMR2/VMR2+ Mine Dectector

#### SUPPORT REQUIREMENTS:

**RANGE/TRAINING AREA:** Facility Code 17820 Engineer Qualification Range, Non-Standardized

EQUIPMENT: Mine detectors, Metal detectors, Minefield marking kit

UNITS/PERSONNEL: Range RSO, Corpsman

OTHER SUPPORT REQUIREMENTS: Communications (radio)

**1371-MOBL-1003:** Breach explosive obstacles/hazards

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

<u>DESCRIPTION</u>: Breach explosive obstacles/hazards to create lanes/safety corridors through explosive obstacles and hazards (mines, minefields, IEDs, UXO, and boobytraps) that impede the mobility of the Operating Force. This could include utilizing mechanical/remote controlled engineer assets during route and area clearance for mobility and the conduct of minefield breaching operations.

GRADES: PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a mission, personnel, Class V, demolitions equipment, clearance assets, mine probes, handheld detectors, and personal protective equipment.

**STANDARD:** So all explosive hazards are located, marked, and/or destroyed in place and any created lanes are marked per doctrine.

#### PERFORMANCE STEPS:

- 1. Locate explosive obstacles/hazards.
- 2. Identify type and condition of explosive obstacles/hazards.
- 3. Create lane(s) through explosive obstacles (if applicable).
- 4. Reduce explosive hazards (if applicable).
- 5. Proof lane(s) for explosive obstacles (if applicable).
- 6. Verify reduction of explosive obstacles/hazards (if applicable).
- 7. Mark lane(s) for mobility through explosive obstacles (if applicable).

## **REFERENCES:**

- 1. MCIP 3-17.02 MAGTF COUNTER-IMPROVISED EXPLOSIVE DEVICE (C-IED) OPERATIONS
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.3 MAGTF Breaching Operations
- 7. TM 013750-13&P Operators Manual MK-7 MOD. 1 Anti-Personnel Obstacle Breaching System (APOBS)

8. TM 08982A-14&P/2B Operator's Manual for MK 155 Mine Clearance System

#### SUPPORT REQUIREMENTS:

# ORDNANCE:

DODIC Quantity A075 Ctg, 5.56mm Blank M200 Lkd 400 rounds per Team A080 Ctg, 5.56mm Blank M200 Single Round 90 rounds per Marine All1 Ctg, 7.62mm Blank M82 Lkd 200 rounds per Team G940 Gren, Hand Green Smoke M18 1 grenades per Team G945 Gren, Hand Yellow Smoke M18 1 grenades per Team G982 Gren, Hand Smoke TA M83 1 grenades per Team J143 Rocket Motor, 5inch MK22 Mod 4 2 rockets per Team K231 Mine, Antitank Practice M20 6 mines per Team L312 Signal, Illumination Ground White St 1 flares per Team L314 Signal, Illumination Ground Green St 1 flares per Team M028 Demo Kit, Bangalore Torpedo M1A2 1 cases per Team M130 Cap, Blasting Electric M6 2 blasting caps per Team M131 Cap, Blasting Non-Electric M7 4 blasting caps per Marine M456 Cord, Detonating PETN Type I Class E 350 FT per Team M670 Fuse, Blasting Time M700 35 FT per Marine M757 Chg, Assembly Demo M183 Comp C4 2 charges per Team M913 Chg, Demo High Explosive Linear M58A 1 charges per Team M914 Chg, Demo Inert Linear M68A2 1 charges per Team MN08 Igniter, Time Blasting Fuse with Sho 8 igniters per Marine MN52 Detonator, Percussion, NonElectric M 4 detonators per Team MN79 Mine, Antipersonnel Obstacle Breachi 1 cases per Team MN88 Cap, Blasting, Non-Electric, M21 w/ 3 blasting caps per Team

## RANGE/TRAINING AREA:

Facility Code 17830 Light Demolition Range Facility Code 17905 Mine Warfare Area

**EQUIPMENT:** CAT III Buffalo, Vehicle Mounted Mine Detector (VMMD), HMDS, MICLIC Trailer, robots, handheld detectors, Squad demoliton kit and other Government Furnished Equipment (GFE) for breaching/clearing operations.

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

1371-MOBL-1004: Employ a Medium Girder Bridge (MGB)

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**GRADES:** PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** As a member of a team, provided a completed MGB Pro Forma, a gap, Medium Girder Bridge set, tools, a launch vehicle, personnel and references.

**STANDARD:** To meet design specifications and intended bridge classification per the Pro Forma, while observing safety precautions and technical specifications during build, boom, launch and recovery in accordance with TM 08676A-10/1-1 Operators Manual Medium Girder Bridge.

## PERFORMANCE STEPS:

- 1. Review requirements.
- 2. Install front roller beam.
- 3. Build end of bridge (EOB) + 1.
- 4. Install rear roller beam, if required.
- 5. Build and boom bridge, to include launching nose configuration.
- 6. Launch the bridge.
- 7. Set bridge on deck.
- 8. Dress the bridge.
- 9. Anchor as required.
- 10. Retrieve the MGB.

#### **REFERENCES:**

- 1. MCWP 3-17.8 Combined Arms Mobility Operations
- 2. TM 08676A-10/1-1 Operators Manual Medium Girder Bridge

#### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17920 Panel Bridge Area

EQUIPMENT: MGB set, MGB Erection set, MGB Reinforcement set, 7-ton vehicle

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Communications (radio)

1371-MOBL-1005: Employ the Improved Ribbon Bridge (IRB)/Raft

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**GRADES:** PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** As a member of a team, provided a wet gap, an IRB set, Bridge Erection Boats with operators, tools and safety equipment.

<u>STANDARD</u>: To ensure proper assembly of a bridge/raft capable of supporting unit mobility requirements during wet gap crossings and proper disassembly/recovery in accordance with TM 11518A-OR Improved Ribbon Bridge Operator's Manual.

- 1. Review requirements.
- 2. Perform pre-operation checks.
- 3. Deploy the IRB.
- 4. Capture IRB components.
- 5. Connect bays.
- 6. Install rafting brackets as required.
- 7. Rig BEB to IRB for anchoring (if applicable).
- 8. Rig BEB to IRB for rafting (if applicable).
- 9. Operate ramp bays.
- 10. Disassemble bays.
- 11. Prepare bays for recovery.
- 12. Perform post-operation checks.

- 1. MCWP 3-17.8 Combined Arms Mobility Operations
- 2. TM 10020C-OI \_ Boat, Bridge Erection Twin Jet, Aluminum Hull (Model MK III)
- 3. TM 11518A-OR Improved Ribbon Bridge (IRB) Operators Manual

#### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17922 Floating Bridge Site

**EQUIPMENT:** MK-48/18 LVSR, Bridge Erection Boat (BEB MKIII), Safety Boat (CRRC w/MFE), Marine Corps Bridge Adapter Pallet (MCBAP)

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Safety Swimmer,
Corpsman, MOS 1342 Boat Mechanic

OTHER SUPPORT REQUIREMENTS: Communications (radio)

1371-MOBL-1006: Employ the MK 153 SMAW

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical target at ranges 150 to 500 meters, wearing a fighting load, operating as a gunner, with an assistant gunner.

**STANDARD:** To attain a hit from a suitable position using spotting rounds and one rocket.

## PERFORMANCE STEPS:

- 1. Load the SMAW.
- 2. Select a firing position.
- 3. Acquire the target in the sight.
- 4. Determine range to target.
- 5. Set the estimated range on the sight range selector drum (optic sight).
- 6. Place the SMAW in Condition 1.
- 7. Fire a spotting round and observe impact.
- 8. Make necessary adjustments until spotting rounds impact target or until the six (6) spotting rounds are expended.
- 9. Fire the SMAW.
- 10. Take immediate action if misfire occurs with either spotting rifle or launcher.
- 11. Move to alternate/supplemental position.
- 12. Maintain the SMAW.

#### **REFERENCES:**

- $\overline{1}$ . TM 08673A-10/1 Launcher, Assault Rocket 83MM (SMAW) MK 153 MOD 0
- 2. TM 08673A-25&P/2A Launcher, Assault Rocket 83MM (SMAW)

## SUPPORT REQUIREMENTS:

#### ORDNANCE:

DODIC Quantity

AX11 Ctg, 9mm Spotting Rifle MK217 Mod 0 6 rounds per Marine
HX05 Rocket, 83mm HE Dualmode 1 rocket per Team
HX07 Rocket, 83mm HEAA Practice 1 rocket per Team
LX21 Simulator, Noise Assault Rocket Trai 1 Simulator per Marine

RANGE/TRAINING AREA: Facility Code 17710 Multipurpose Training Range (MPTR)

EQUIPMENT: Safety vehicle, Assault rocket trainer MK27 Mod 0

UNITS/PERSONNEL: Range OIC, Range RSO, Corpsman

OTHER SUPPORT REQUIREMENTS: Communications (radio)

1371-RECN-1001: Obtain critical information for engineer reconnaissance

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** As a member of an engineer reconnaissance team, provided a mission, recon forms, equipment, and references.

 $\underline{\mathtt{STANDARD}}$ : To provide accurate measurements and essential engineer information required to assist in the completion of the appropriate  $\mathtt{form}(s)$  and  $\mathtt{report}(s)$ .

## PERFORMANCE STEPS:

- 1. Determine roadway/traveled way width.
- 2. Determine height of overhead obstructions.
- 3. Determine percent of slope.
- 4. Determine radius of a curve.
- 5. Determine stream velocity.
- 6. Measure bridge components.
- 7. Determine gap width.
- 8. Identify possible engineer resources.
- 9. Identify obstacles by type and location (6-digit grid coordinate).

## REFERENCES:

- 1. GTA 5-2-5 Engineer Reconnaissance
- 2. MCRP 3-17A Engineering Field Data
- 3. MCRP 3-17B Engineer Forms and Reports
- 4. MCWP 3-17.4 Engineer Reconnaissance

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17413 Field Training Area

UNITS/PERSONNEL: Range OIC, Range Safety Officer

OTHER SUPPORT REQUIREMENTS: Communications (radio)

1371-SURV-1001: Construct survivability positions

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL, CPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a defensive position location, construction directive, Class IV, engineer tools, equipment, personal protective equipment (PPE), and references.

**STANDARD:** To provide a position with the appropriate levels of structural integrity and ballistic protection based on threat weapons capabilities in accordance with MCWP 3-17.6 Survivability.

#### PERFORMANCE STEPS:

- 1. Prepare to construct survivability position(s).
- 2. Place structural materials (if applicable).
- 3. Place shielding materials.
- 4. Place revetment materials (if applicable).
- 5. Camouflage position (if applicable).

#### REFERENCES:

- 1. MCRP 3-17A Engineering Field Data
- 2. MCWP 3-17.6 Survivability Operations

#### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17413 Field Training Area

**EQUIPMENT:** TRAMs, 420D backhoe, pioneer kit, 260 cfm, and PPE

MATERIAL: Heavy and mid-size timber (3x6 - 12x12), Class IV

<u>UNITS/PERSONNEL</u>: Range OIC, Range Safety Officer, Corpsman, Heavy equipment operators.

OTHER SUPPORT REQUIREMENTS: Communications (radio)

1371-VERT-1001: Cut construction material to dimension

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**GRADES:** PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided specifications, a construction site, engineer carpentry tools, power source, personal protective equipment (PPE), and construction material.

STANDARD: Utilizing the proper tools, while observing all safety precautions.

## PERFORMANCE STEPS:

- 1. Select a measuring tool.
- 2. Measure construction material to dimension required.
- 3. Mark the construction material.
- 4. Select appropriate cutting tool.
- 5. Verify all safety precautions are in place.
- 6. Cut construction material.

#### REFERENCES:

- 1. Appropriate TM/Manufacture's Manual for Power Tools
- 2. MCRP 3-17.7C Carpentry
- 3. MCRP 3-17.7D Concrete and Masonry
- 4. MCWP 3-17.6 Survivability Operations

# SUPPORT REQUIREMENTS:

#### RANGE/TRAINING AREA:

Facility Code 17330 Covered Training Area Facility Code 17413 Field Training Area

EQUIPMENT: Carpenter's kit, Construction Shop Kit, 10Kw Generator, PPE

MATERIAL: Lumber, plywood, Oriented Strand Board, interior sheeting, sheet metal, reinforcement bar

UNITS/PERSONNEL: Corpsman

OTHER SUPPORT REQUIREMENTS: Electrical power requirements

1371-VERT-1002: Place lumber

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**GRADES:** PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided blueprints or specifications, construction site, engineer carpentry tools, lumber cut to specification, personal protective equipment (PPE), and fasteners.

**STANDARD:** To meet mission specifications, utilizing proper tools while observing safety precautions in accordance with MCRP 3-17.7C Carpentry.

# PERFORMANCE STEPS:

- 1. Review requirements.
- 2. Select fastener.
- 3. Select appropriate fastening tool.
- 4. Place floor components.
- 5. Place exterior wall frame components.
- 6. Place wall components.
- 7. Place stair components (if applicable).
- 8. Place roof components.

#### **REFERENCES:**

- 1. Appropriate Manufacturer's Assembly Manual/Instructions
- 2. MCRP 3-17.7C Carpentry
- 3. NAVPERS 0-486-20242-9 Basic Construction Techniques for Houses and Small Buildings

## SUPPORT REQUIREMENTS:

## RANGE/TRAINING AREA:

Facility Code 17330 Covered Training Area Facility Code 17413 Field Training Area

**EQUIPMENT:** Carpenter's kit, PPE

MATERIAL: Lumber, plywood, fasteners

UNITS/PERSONNEL: Corpsman

OTHER SUPPORT REQUIREMENTS: Electrical power requirements

1371-VERT-1003: Lay concrete block

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided blueprints or specifications, a construction site, concrete block, mortar mix, a water source, a concrete and masonry tool kit, mixing equipment, and personal protective equipment (PPE).

**STANDARD:** To ensure that finished head joints and bed joints are between 5/16" and 7/16"; corners are at 90 degree angles; and courses are level and plumb.

#### PERFORMANCE STEPS:

- 1. Select appropriate blocks per the specifications.
- 2. Prepare site for laying block.
- 3. Mix mortar.
- 4. Lay block to specifications.
- 5. Dress and strike mortar joints.
- 6. Install anchor bolts/fill cores, as required by specifications.
- 7. Clean, survey, and store tools and equipment.

# REFERENCES:

1. MCRP 3-17.7D Concrete and Masonry

# SUPPORT REQUIREMENTS:

## RANGE/TRAINING AREA:

Facility Code 17330 Covered Training Area Facility Code 17413 Field Training Area

EQUIPMENT: Concrete and Masonry kit

MATERIAL: CMU blocks, clay bricks, cement, mortar, lime, sand, water

source

UNITS/PERSONNEL: Corpsman

OTHER SUPPORT REQUIREMENTS: Electrical and fuel requirements

1371-VERT-1004: Place timber

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**GRADES:** PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a mission, construction site, specifications, engineer tools, timber cut to specification, attaching hardware, personal protective equipment (PPE), and references.

**STANDARD:** To meet mission specifications, utilizing engineer hand tools while observing safety precautions.

#### PERFORMANCE STEPS:

- 1. Place timber for bunker or structure construction (if applicable).
- 2. Place timber for non-standard bridge components (if applicable).
- 3. Place timber for shoring (hardening) positions in structures (if applicable).

## REFERENCES:

- 1. MCRP 3-17.1B Military Non-Standard Fixed Bridging
- 2. MCRP 3-17A Engineering Field Data
- 3. MCWP 3-17.6 Survivability Operations
- 4. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

#### SUPPORT REQUIREMENTS:

**EQUIPMENT:** 260 CFM, Pioneer Kit

UNITS/PERSONNEL: Corpsman

OTHER SUPPORT REQUIREMENTS: Crane support for bridging

# 21004. 2000-LEVEL EVENTS

URP-DEVL-2003: Coordinate Unit Training (L)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>BILLETS</u>: Commanding Officers, Executive Officers, Infantry Weapons Officer, Operations Chiefs, Operations Officers, Training Chief, Training Officers, Company Commanders, Officer in Charge (OIC), Platoon Commanders, Platoon Sergeants, Section Chiefs, Section Leaders, Squad Leaders, Team Leaders

GRADES: CPL, SGT, SSGT, GYSGT, 1STSGT, MSGT, MGYSGT, SGTMAJ, WO-1, CWO-2,
CWO-3, CWO-4, CWO-5, 2NDLT, 1STLT, CAPT, MAJ, LTCOL

#### INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Given a training event/exercise and guidance, T&R Manuals, training plans, training schedules, access to automated training systems, and references.

**STANDARD:** To address the five W's and H (who, what, where, when, why and how) for each training event to coordinate the requisite level of support for training per the Mission and Mission Essential Task List (METL).

#### PERFORMANCE STEPS:

- 1. Develop the Order/Letter of Instruction (LOI).
- 2. Develop the Training Support Request(s) (TSR).
- 3. Incorporate Operational Risk Management.
- 4. Develop the Operational Risk Assessment Worksheet.
- 5. Conduct range/training venue reconnaissance.
- 6. Designate trainers, evaluators and support personnel.
- 7. Coordinate with adjacent units and appropriate personnel.
- 8. Inspect equipment.
- 9. Conduct training meeting.
- 10. Allocate resources.
- 11. Update training plans with corresponding schedules.
- 12. Conduct a confirmation brief.
- 13. Resolve training conflicts and shortfalls.
- 14. Publish the order/LOI.

#### **REFERENCES:**

- 1. MCO 1553.3\_ Unit Training Management (UTM) Program
- 2. MCRP 3-0A Unit Training Management Guide
- 3. MCRP 3-0B How to Conduct Training
- 4. MCRP 3-11.1A Commander's Tactical Handbook
- 5. SECNAV MANUAL M-5216.5\_ Department of the Navy Correspondence Manual
- 6. MCTIMS User Manual

# MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Coordination with adjacent units and appropriate personnel is conducted in units on a regular battle rhythm through weekly training meetings. Training meetings become the primary vehicle to coordinate unit training in accordance with each unit SOP and may occur more frequently than annotated in the above performance steps.

URP-EVAL-2004: Assess Unit Readiness (L)

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 month

<u>BILLETS</u>: Commanding Officers, Executive Officers, Infantry Weapons Officers, Officers in Charge (OIC), Operations Chiefs, Operations Officers

GRADES: GYSGT, MSGT, MGYSGT, WO-1, CWO-2, CWO-3, CWO-4, CAPT, MAJ, LTCOL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a Mission Essential Task List (METL) and mission statement, commander's guidance, access to automated systems, unit Table of Organization and Equipment (T/O&E), evaluation/assessment data, Training & Readiness (T&R) Manuals, and references.

<u>STANDARD</u>: Delineating the current status of unit training, available equipment, personnel, and resources available against resources required to execute the assigned missions.

#### PERFORMANCE STEPS:

- 1. Review training guidance.
- 2. Review METL.
- 3. Determine the security classification of the METL assessment.
- 4. Determine waiver/deferment requirement for each Mission Essential Task (MET).
- 5. Review condition and standard for each MET.
- 6. Review measures of effectiveness (Training, Personnel, Equipment, & Output).
- 7. Review T/O.
- 8. Review T/E.
- 9. Review evaluation/assessment data.
- 10. Assess personnel readiness levels.
- 11. Assess equipment readiness levels.
- 12. Assess training readiness levels.
- 13. Assess core mission capability.
- 14. Assess assigned mission capability.
- 15. Determine forecasted increases or decreases in future readiness levels.
- 16. Report evaluation via readiness reporting program of record.

#### **REFERENCES:**

- 1. MCO 1553.3\_ Unit Training Management (UTM) Program
- 2. MCO 3000.13\_ Marine Corps Readiness Reporting Standard Operating Procedures (SOP)
- 3. MCO 3500.110 Policy and Guidance for Mission Essential Task List (METL) Development, Review, Approval, Publication and Maintenance
- 4. MCO P3500.72\_ Marine Corps Ground Training and Readiness (T&R) Program
- 5. MCTL Marine Corps Task List
- 6. MSTP PAM 6-9 Assessment

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: The purpose of assessing unit readiness is to provide higher headquarters with the unit's ability to provide forces and capabilities required by the combatant commander to execute their assigned mission. Readiness information supports crisis response planning, deliberate or peacetime planning, and management responsibilities to organize, train, and equip combat-ready forces.

1371-CMOB-2001: Recommend obstacle placement

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**GRADES:** CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided an operations order, an area map, reconnaissance reports, personnel, engineer equipment and references.

**STANDARD:** To tie into existing natural or other manmade obstacles so that enemy movement/maneuvers are fixed, turned, blocked, or disrupted in support of the concept of operations per the commander's intent.

## PERFORMANCE STEPS:

- 1. Analyze the mission.
- 2. Analyze avenues of approach.
- 3. Analyze engagement areas, battle positions, and locations of weapons systems.
- 4. Determine possible obstacle locations and types.
- 5. Determine the commander's obstacle priorities.
- 6. Determine resources.
- 7. Determine work sequence.
- 8. Determine task organization.
- 9. Determine coordination required.

#### REFERENCES:

- 1. MCRP 3-17.2D Explosive Hazard Operations
- 2. MCRP 3-17.7L Explosives and Demolitions
- 3. MCRP 3-17A Engineer Field Data
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 3-17 Engineer Operations
- 6. MCWP 3-17.5 Combined Arms Obstacle Integration
- 7. MCWP 3-41.1 Rear Area Operations

1371-CMOB-2003: Employ booby traps

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**GRADES:** CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given the proper authority to set booby traps, Class V, demolition tools, a blank DA Form 1355 and personal protective equipment (PPE).

**STANDARD:** To slow the enemy's advance; deny the enemy use of facilities or material; warn of enemy approach; or deny the enemy use of terrain not covered by direct fire in accordance with MCRP 3-17.2D Explosive Hazard Operations.

- 1. Review the mission.
- 2. Perform area reconnaissance.
- 3. Determine location(s).
- 4. Determine type of trap (explosive/non-explosive).
- 5. Determine type of firing device(s).
- 6. Determine types and amount of Class V.
- 7. Complete the firing chain.
- 8. Arm booby trap(s).
- 9. Camouflage to its natural state.

- 10. Record the booby traps on DA Form 1355.
- 11. Turn in all safety pins and clips to the NCOIC.
- 12. Submit required report(s).

- 1. MCRP 3-17.2D Explosive Hazard Operations
- 2. MCRP 3-17.7L Explosives and Demolitions
- 3. MCRP 3-17A Engineering Field Data
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 3-17 Engineering Operations

## SUPPORT REQUIREMENTS:

#### **ORDNANCE:**

| OLDINIZIOZ •                              |                       |
|-------------------------------------------|-----------------------|
| DODIC                                     | Quantity              |
| G940 Gren, Hand Green Smoke M18           | 2 grenades per Team   |
| G945 Gren, Hand Yellow Smoke M18          | 2 grenades per Team   |
| G982 Gren, Hand Smoke TA M83              | 2 grenades per Team   |
| L495 Flare, Surface Trip M49/A1 Series    | 2 flares per Team     |
| L594 Sim, Proj Ground Burst M115A2        | 2 Simulator per Team  |
| L598 Sim, Explosive Booby Trap Flash M117 | 2 Simulator per Team  |
| M023 Chg, Demo Block M112 11/4 pound C4   | 10 charges per Team   |
| M327 Coupling Base, Firing Device with Pr | 4 detonators per Team |
| M456 Cord, Detonating PETN Type I Class E | 350 FT per Team       |
| ML03 Firing Device, Demo MultiPurpose M14 | 4 detonators per Team |
| MN52 Detonator, Percussion, NonElectric M | 4 detonators per Team |

## RANGE/TRAINING AREA:

Facility Code 17413 Field Training Area Facility Code 17830 Light Demolition Range

**EQUIPMENT:** Squad demolitions kit

<u>MATERIAL</u>: Barbed wire roll, nails, coffee cans, glass shards, shrapnel, secondary projectiles.

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Communications (radio)

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: All explosive booby trap devices training will be constructed in accordance with MCRP 3-17.2D Explosive Hazards Operations and conducted on approved demolition ranges.

1371-CMOB-2004: Destroy bridges using explosives

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

**GRADES:** SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a mission, a bridge reconnaissance report, personnel, Class V, a demolition kit, protective field equipment and references.

**STANDARD:** To ensure that the demolition results in either a gap that exceeds the enemy's assault bridging capability by 5 meters, or that leaves demolished components which are unable to provide sufficient bearing capacity for enemy assault breaching assets.

#### PERFORMANCE STEPS:

- 1. Review the mission/bridge reconnaissance report.
- 2. Determine bridge category.
- 3. Design collapse mechanism.
- 4. Select method of attack.
- 5. Establish security.
- 6. Calculate charges.
- 7. Place charges.
- 8. Initiate demolition.

## **REFERENCES:**

- 1. GTA 05-10-033 Demolition Card
- 2. MCRP 3-17.7L Explosives and Demolitions
- 3. MCRP 3-17A Engineer Field Data

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: This tasks replicates training needed for wartime conditions to impede enemy mobility. Class V (W) explosives is not annotated due to different types of bridges and task standards for either destroying a span, intermediate support, or bridge abutment.

1371-DEMO-2001: Engage targets with expedient demolitions

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 3 months

GRADES: CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a target, demolitions tools and equipment, Class V, improvised materials, and protective field equipment.

**STANDARD:** To produce the desired effect on the target equivalent to the effect of a similar conventional explosive or demolition charge.

- 1. Analyze target.
- 2. Construct a platter charge.
- 3. Construct an expedient claymore.
- 4. Construct a grape shot directional charge.
- 5. Construct an omni (360 degree) charge.
- 6. Construct an expedient shaped charge.
- 7. Construct an expedient flame charge.
- 8. Construct an expedient bangalore torpedo.
- 9. Engage target.

- 1. GTA 05-10-033 Demolition Card
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineer Field Data
- 5. SWO 60-AA-MMA-010 Demolition Materials

## SUPPORT REQUIREMENTS:

#### **ORDNANCE:**

| <u></u> -                                 |                          |
|-------------------------------------------|--------------------------|
| DODIC                                     | Quantity                 |
| M023 Chg, Demo Block M112 11/4 pound C4   | 10 charges per Team      |
| M032 Chg, Demo Block TNT 1Pound           | 10 charges per Team      |
| M130 Cap, Blasting Electric M6            | 8 blasting caps per Team |
| M131 Cap, Blasting Non-Electric M7        | 8 blasting caps per Team |
| M456 Cord, Detonating PETN Type I Class E | 250 FT per Team          |
| M670 Fuse, Blasting Time M700             | 50 FT per Team           |
| ML03 Firing Device, Demo MultiPurpose M14 | 5 detonators per Team    |
| ML47 Cap, Blasting Non-Electric M11 with  | 3 blasting caps per Team |
| MN08 Igniter, Time Blasting Fuse with Sho | 8 igniters per Team      |
| MN52 Detonator, Percussion, NonElectric M | 5 detonators per Team    |
| MN88 Cap, Blasting, Non-Electric, M21 w/  | 3 blasting caps per Team |
|                                           |                          |

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

**EQUIPMENT:** Squad demolitions kit, PPE

MATERIAL: Ammonium Nitrate (33% Nitrogen), JP-8 fuel

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Safety vehicle, Ammunition vehicle,

Communications (radio)

1371-DEMO-2002: Use specialized explosives

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 3 months

GRADES: CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a mission to destroy or disable a target, demolition tools and equipment, Class V material, protective field equipment and references.

 $\underline{\mathtt{STANDARD}}$ : To produce the desired effect on the target per mission requirements.

- 1. Review demo target reconnaissance information.
- 2. Choose proper explosive.
- 3. Calculate correct quantity of explosive.
- 4. Place the charge on the target.
- 5. Prime the explosive.
- 6. Detonate the explosive.

- 1. GTA 05-10-033 Demolition Card
- 2. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations

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- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. SWO 60-AA-MMA-010 Demolition Materials

## SUPPORT REQUIREMENTS:

# ORDNANCE:

| DODIC                                     | Quantity                  |
|-------------------------------------------|---------------------------|
| AX14 Primer, Percussion 12 Gauge W209     | 4 primers per Team        |
| M023 Chg, Demo Block M112 11/4 pound C4   | 4 charges per Team        |
| M130 Cap, Blasting Electric M6            | 10 blasting caps per Team |
| M131 Cap, Blasting Non-Electric M7        | 10 blasting caps per Team |
| M670 Fuse, Blasting Time M700             | 50 FT per Team            |
| M766 Igniter, Time Fuse Blasting          | 11 igniters per Team      |
| M982 Chg, Demo Sheet 0.166 Inch Thick     | 1 FT per Team             |
| ML47 Cap, Blasting Non-Electric M11 with  | 2 blasting caps per Team  |
| MM45 Chg, Demo FLSC 125 Gr/Ft             | 1 charges per Team        |
| MM46 Chg, Demo FLSC 225 Gr/Ft             | 1 charges per Team        |
| MM47 Chg, Demo FLSC 400 Gr/Ft             | 1 charges per Team        |
| MM48 Chg, Demo FLSC 600 Gr/Ft             | 1 charges per Team        |
| MN08 Igniter, Time Blasting Fuse with Sho | 6 igniters per Team       |
| MN14 Firing Device, Dual Mode MK54        | 1 igniters per Team       |
| MN52 Detonator, Percussion, NonElectric M | 4 detonators per Team     |
| MN88 Cap, Blasting, Non-Electric, M21 w/  | 1 blasting caps per Team  |
| MN90 Cap, Blasting, Non-Electric, M23 w/  | 1 blasting caps per Team  |

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

**EQUIPMENT:** Squad demolitions kit, PPE

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Communications (radio)

1371-DEMO-2003: Maintain a Breacher's Logbook

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**GRADES:** CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a breaching mission, and breacher's logbook.

**STANDARD:** To compile useful data as a reference for follow on breaching missions making all required entries and verifying the logbook accuracy.

- 1. Compile all necessary information.
- 2. Complete pre-mission entries.
- 3. Complete post-mission entries.

- 1. MCRP 3-17.7L Explosives and Demolitions
- 2. VOLUME I Guidebook for Assault Entry Techniques, Volume I

#### SUPPORT REQUIREMENTS:

MATERIAL: Breacher's Logbook

1371-DEMO-2004: Compute the Net Explosive Weight (NEW)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an explosive charge, a charge logbook, a calculator and references.

**STANDARD:** To determine safe blast and fragmentation distances for an explosive charge in accordance with MCRP 2-17.7L Explosives and Demolitions.

## PERFORMANCE STEPS:

- 1. Utilizing conversion factors, convert weights of all explosives used into Tri-Nitro-Toluene (TNT) equivalent.
- 2. Determine NEW in pounds.
- 3. Calculate safe-blast distance.
- 4. Calculate safe-fragmentation distance.

## REFERENCES:

- 1. MCRP 3-17.7L Explosives and Demolitions
- 2. SWO 60-AA-MMA-010 Demolition Materials
- 3. SWO60-AA-MMA-020 DEMOLITION MATERIALS (Vol II)

1371-DEMO-2005: Take appropriate protective measures

**EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months** 

GRADES: CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an explosive charge, a designated target, assorted tools, and personal protective equipment (PPE).

<u>STANDARD</u>: To ensure personnel safety during detonation based on target type, location, and the explosive charge employed in accordance with MCRP 3-17.7L Explosives and Demolitions.

- 1. Evaluate the target and surrounding areas.
- 2. Evaluate the explosive charge.
- 3. Compute Net Explosive Weight (NEW).

- 4. Compute safe standoff distance.
- 5. Determine possible effects of detonation on the target and surrounding
- 6. Explain protective measures taken for a given blast.
- 7. Brief team members on explosive effects and safe locations.
- 8. Position personnel in a safe location during detonation.

- 1. MCRP 3-17.7L Explosives and Demolitions
- 2. SWO 60-AA-MMA-010 Demolition Materials
- 3. TM 9-1300-206 Explosive Standards

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Knowledge of theory and operations of a shape charge and explosive theory and principles are key aspects to be covered during the training of this task.

1371-DEMO-2006: Identify building construction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a targeted structure, and references.

 $\underline{\mathtt{STANDARD}}$ : To determine an appropriate breaching technique in accordance with NSWC/DL TR-3714 Urban Building Characteristics.

## PERFORMANCE STEPS:

- 1. Identify building construction composition.
- 2. Identify physical structural requirements for multi-level construction.
- 3. Identify standard construction methods and materials by region of the world.

#### **REFERENCES:**

- 1. NSWC TR 79-224 Characteristics of Urban Terrain
- 2. NSWC/DL TR-3714 Urban Building Characteristics

1371-DEMO-2007: Employ a doughnut charge

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

**GRADES:** CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given Class V, breaching tools, non-explosive materials, a target to attack, and personal protective equipment (PPE).

 $\underline{\mathtt{STANDARD}}$ : To execute a successful breach in accordance with MCRP 3-17.7L Explosives and Demolitions.

#### PERFORMANCE STEPS:

- 1. Select the appropriate explosives for the target.
- 2. Construct the charge.
- 3. Prepare an initiating system.
- 4. Compute the Net Explosive Weight (NEW).
- 5. Position assault element.
- 6. Place the charge.
- 7. Detonate the charge.
- 8. Follow up with mechanical breaching as required.

#### **REFERENCES:**

- 1. MCRP 3-17.7L Explosives and Demolitions
- 2. SWO 60-AA-MMA-010 Demolition Materials
- 3. SWO60-AA-MMA-020 DEMOLITION MATERIALS (Vol II)
- 4. VOLUME I Guidebook for Assault Entry Techniques, Volume I

# SUPPORT REQUIREMENTS:

# ORDNANCE:

| DODIC                                     | Quantity                   |
|-------------------------------------------|----------------------------|
| AX14 Primer, Percussion 12 Gauge W209     | 2 primers per Marine       |
| M130 Cap, Blasting Electric M6            | 1 blasting caps per Marine |
| M456 Cord, Detonating PETN Type I Class E | 5 FT per Marine            |
| ML03 Firing Device, Demo MultiPurpose M14 | 1 detonators per Team      |
| MN52 Detonator, Percussion, NonElectric M | 1 detonators per Marine    |

RANGE/TRAINING AREA: Facility Code 17961 Combat In Cities Facility

**EQUIPMENT:** Marine Assault Breacher's kit, Squad demolitions kit, PPE

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Communications (radio)

1371-DEMO-2008: Employ a window charge

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**GRADES:** CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given Class V, breaching tools, non-explosive materials, a target to attack, and personal protective equipment (PPE).

**STANDARD:** To execute a successful breach in accordance with MCRP 3-17.7L Explosives and Demolitions.

- 1. Select the appropriate explosives for the target.
- 2. Construct the charge.
- 3. Prepare an initiating system.

- 4. Compute the Net Explosive Weight (NEW).
- 5. Position assault element.
- 6. Place the charge.
- 7. Detonate the charge.
- 8. Follow up with mechanical breaching as required.

#### REFERENCES:

- 1. MCRP 3-17.7L Explosives and Demolitions
- 2. SWO60-AA-MMA-010 Demolition Materials
- 3. SWO60-AA-MMA-020 DEMOLITION MATERIALS (Vol II)
- 4. VOLUME I Guidebook for Assault Entry Techniques, Volume I

# SUPPORT REQUIREMENTS:

# ORDNANCE:

| DODIC                                     | Quantity                   |
|-------------------------------------------|----------------------------|
| AX14 Primer, Percussion 12 Gauge W209     | 2 primers per Marine       |
| M130 Cap, Blasting Electric M6            | 2 blasting caps per Marine |
| M456 Cord, Detonating PETN Type I Class E | 5 FT per Marine            |
| ML03 Firing Device, Demo MultiPurpose M14 | 1 detonators per Team      |
| MN52 Detonator, Percussion, NonElectric M | 1 detonators per Marine    |

RANGE/TRAINING AREA: Facility Code 17961 Combat In Cities Facility

EQUIPMENT: Marine Assault Breacher's kit, squad demolitions kit, PPE

MATERIAL: Appropriate medium, double sided tape, rubber conveyor belt material, waterproof tape

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Communications (radio)

1371-DEMO-2009: Employ a water charge

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

**GRADES:** CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given Class V, breaching tools, non-explosive materials, a target to attack, and personal protective equipment (PPE).

**STANDARD:** To execute a successful breach in accordance with MCRP 3-17.7L Explosives and Demolitions.

- 1. Select the appropriate explosives for the target.
- 2. Construct the charge.
- 3. Prepare an initiating system.
- 4. Compute the Net Explosive Weight (NEW).
- 5. Position assault element.
- 6. Place the charge.
- 7. Detonate the charge.

8. Follow up with mechanical breaching as required.

#### **REFERENCES:**

- 1. MCRP 3-17.7L Explosives and Demolitions
- 2. SWO60-AA-MMA-010 Demolition Materials
- 3. SWO60-AA-MMA-020 DEMOLITION MATERIALS (Vol II)
- 4. VOLUME I Guidebook for Assault Entry Techniques, Volume I
- 5. VOLUME II Guidebook for Assault Entry Techniques Volume II

#### SUPPORT REQUIREMENTS:

#### **ORDNANCE:**

DODIC<br/>AX14 Primer, Percussion 12 Gauge W209Quantity<br/>2 primers per MarineM456 Cord, Detonating PETN Type I Class E<br/>ML03 Firing Device, Demo MultiPurpose M1412 FT per MarineMN52 Detonator, Percussion, NonElectric M1 detonators per Marine

RANGE/TRAINING AREA: Facility Code 17961 Combat In Cities Facility

EQUIPMENT: Assault Breacher's kit, squad demolitons kit, PPE

MATERIAL: 550 Parachute Cord, Prop stick, double sided tape, backing material, electrical tape, IV bag(s), rigger's tape

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Communications (radio)

1371-DEMO-2010: Employ an oval charge

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: CPL, SGT

**INITIAL TRAINING SETTING: FORMAL** 

**CONDITION:** Given Class V, breaching tools, non-explosive materials, a target to attack, and personal protective equipment (PPE).

 ${\color{red} {\tt STANDARD}}:$  To execute a successful breach in accordance with MCRP 3-17.7L Explosives and Demolitions.

# PERFORMANCE STEPS:

- 1. Select the appropriate explosives for the target.
- 2. Construct the charge.
- 3. Prepare an initiating system.
- 4. Compute the Net Explosive Weight (NEW).
- 5. Position assault element.
- 6. Place the charge.
- 7. Detonate the charge.
- 8. Follow up with mechanical breaching as required.

#### REFERENCES:

1. MCRP 3-17.7L Explosives and Demolitions

- 2. SWO60-AA-MMA-010 Demolition Materials
- 3. SWO60-AA-MMA-020 DEMOLITION MATERIALS (Vol II)
- 4. VOLUME I Guidebook for Assault Entry Techniques, Volume I

# SUPPORT REQUIREMENTS:

# **ORDNANCE:**

DODIC

AX14 Primer, Percussion 12 Gauge W209

M130 Cap, Blasting Electric M6

M456 Cord, Detonating PETN Type I Class E

ML03 Firing Device, Demo MultiPurpose M14

MN52 Detonator, Percussion, NonElectric M

Quantity

2 primers per Marine

9 blasting caps per Marine

9 FT per Marine

1 detonators per Team

1 detonators per Marine

RANGE/TRAINING AREA: Facility Code 17961 Combat In Cities Facility

EQUIPMENT: Assault Breacher's kit, squad demolitons kit, PPE

MATERIAL: Prop stick, backing material, grease, waterproof tape

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Communications (radio)

1371-DEMO-2011: Employ a Uli knot slider charge

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given Class V, breaching tools, non-explosive materials, a target to attack, and personal protective equipment (PPE).

**STANDARD:** To execute a successful breach in accordance with MCRP 3-17.7L Explosives and Demolitions.

#### PERFORMANCE STEPS:

- 1. Select the appropriate explosives for the target.
- 2. Construct the charge.
- 3. Prepare an initiating system.
- 4. Compute the Net Explosive Weight (NEW).
- 5. Position assault element.
- 6. Place the charge.
- 7. Detonate the charge.
- 8. Follow up with mechanical breaching as required.

#### **REFERENCES:**

- 1. MCRP 3-17.7L Explosives and Demolitions
- 2. SWO 60-AA-MMA-010 Demolition Materials
- 3. VOLUME I Guidebook for Assault Entry Techniques, Volume I

# SUPPORT REQUIREMENTS:

### **ORDNANCE:**

DODIC
AX14 Primer, Percussion 12 Gauge W209
M130 Cap, Blasting Electric M6
M131 Cap, Blasting Non-Electric M7
M456 Cord, Detonating PETN Type I Class E
M670 Fuse, Blasting Time M700
ML03 Firing Device, Demo MultiPurpose M14
MM30 Chg, Flexible 20 Gram PETN MK140 Mod
MN08 Igniter, Time Blasting Fuse with Sho
MN52 Detonator, Percussion, NonElectric M

Quantity
2 primers per Marine
2 blasting caps per Marine
18 FT per Marine
12 FT per Marine
1 detonators per Team
2 charges per Marine
2 igniters per Marine
1 detonators per Marine

RANGE/TRAINING AREA: Facility Code 17961 Combat In Cities Facility

EQUIPMENT: Assault Breacher's kit, Squad demolitions kit, PPE

MATERIAL: Appropriate medium, double sided tape, waterproof tape

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Communications (radio)

1371-DEMO-2012: Employ a detonating cord linear charge

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given Class V, breaching tools, non-explosive materials, a target to attack, and personal protective equipment (PPE).

**STANDARD:** To execute a successful breach in accordance with MCRP 3-17.7L Explosives and Demolitions.

#### PERFORMANCE STEPS:

- 1. Select the appropriate explosives for the target.
- 2. Construct the charge.
- 3. Prepare an initiating system.
- 4. Compute the Net Explosive Weight (NEW).
- 5. Position assault element.
- 6. Place the charge.
- 7. Detonate the charge.
- 8. Follow up with mechanical breaching as required.

# REFERENCES:

- 1. MCRP 3-17.7L Explosives and Demolitions
- 2. SWO60-AA-MMA-010 Demolition Materials
- 3. VOLUME I Guidebook for Assault Entry Techniques, Volume I

# SUPPORT REQUIREMENTS:

#### **ORDNANCE:**

DODIC Quantity

AX14 Primer, Percussion 12 Gauge W209

M130 Cap, Blasting Electric M6

M131 Cap, Blasting Non-Electric M7

M456 Cord, Detonating PETN Type I Class E

M670 Fuse, Blasting Time M700

ML03 Firing Device, Demo MultiPurpose M14

MN08 Igniter, Time Blasting Fuse with Sho

2 primers per Marine

2 blasting caps per Marine

33 FT per Marine

12 FT per Marine

1 detonators per Team

2 igniters per Marine

RANGE/TRAINING AREA: Facility Code 17961 Combat In Cities Facility

MN52 Detonator, Percussion, NonElectric M 1 detonators per Marine

EQUIPMENT: Assault Breacher's kit, Squad demolitions kit, PPE

MATERIAL: Double sided tape, waterproof tape

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Communications (radio)

1371-DEMO-2013: Employ a concrete charge

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given Class V, breaching tools, non-explosive materials, a target to attack, and personal protective equipment (PPE).

**STANDARD:** To execute a successful breach in accordance with MCRP 3-17.7L Explosives and Demolitions.

# PERFORMANCE STEPS:

- 1. Select the appropriate explosives for the target.
- 2. Construct the charge.
- 3. Prepare an initiating system.
- 4. Compute the Net Explosive Weight (NEW).
- 5. Position assault element.
- 6. Place the charge.
- 7. Detonate the charge.
- 8. Follow up with mechanical breaching as required.

# REFERENCES:

- 1. MCRP 3-17.7L Explosives and Demolitions
- 2. SWO60-AA-MMA-010 Demolition Materials
- 3. VOLUME I Guidebook for Assault Entry Techniques, Volume I
- 4. VOLUME II Guidebook for Assault Entry Techniques Volume II

# SUPPORT REQUIREMENTS:

#### **ORDNANCE:**

| DODIC                                   | Quantity             |
|-----------------------------------------|----------------------|
| AX14 Primer, Percussion 12 Gauge W209   | 2 primers per Marine |
| M023 Chg, Demo Block M112 11/4 pound C4 | 6 charges per Marine |

M130 Cap, Blasting Electric M6
M131 Cap, Blasting Non-Electric M7
M456 Cord, Detonating PETN Type I Class E
M670 Fuse, Blasting Time M700
MM30 Chg, Flexible 20 Gram PETN MK140 Mod
MN08 Igniter, Time Blasting Fuse with Sho
MN52 Detonator, Percussion, NonElectric M

2 blasting caps per Marine
32 FT per Marine
12 FT per Marine
2 igniters per Marine
1 detonators per Marine

RANGE/TRAINING AREA: Facility Code 17961 Combat In Cities Facility

EQUIPMENT: Assault Breacher's kit, Squad demoilitions kit, PPE

MATERIAL: Prop stick, double sided tape, grease, waterproof tape

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Communications (radio)

1371-DEMO-2014: Employ a fence charge

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given Class V, breaching tools, non-explosive materials, a target to attack, and protective field equipment.

 $\underline{\mathtt{STANDARD}}$ : To execute a successful breach in accordance with MCRP 3-17.7L Explosives and Demolitions.

# PERFORMANCE STEPS:

- 1. Select the appropriate explosives for the target.
- 2. Construct the charge.
- 3. Prepare an initiating system.
- 4. Compute the Net Explosive Weight (NEW).
- 5. Position assault element.
- 6. Place the charge.
- 7. Detonate the charge.
- 8. Follow up with mechanical breaching as required.

#### **REFERENCES:**

- 1. MCRP 3-17.7L Explosives and Demolitions
- 2. SWO60-AA-MMA-010 Demolition Materials
- 3. VOLUME I Guidebook for Assault Entry Techniques, Volume I

# SUPPORT REQUIREMENTS:

# ORDNANCE:

| DODIC                                   | <u>Quantity</u>            |
|-----------------------------------------|----------------------------|
| AX14 Primer, Percussion 12 Gauge W209   | 2 primers per Marine       |
| M023 Chg, Demo Block M112 11/4 pound C4 | 4 charges per Marine       |
| M130 Cap, Blasting Electric M6          | 2 blasting caps per Marine |
| M131 Cap, Blasting Non-Electric M7      | 2 blasting caps per Marine |

M456 Cord, Detonating PETN Type I Class E
M670 Fuse, Blasting Time M700
ML03 Firing Device, Demo MultiPurpose M14
MN08 Igniter, Time Blasting Fuse with Sho
MN52 Detonator, Percussion, NonElectric M

15 FT per Marine
12 FT per Marine
1 detonators per Team
2 igniters per Marine
1 detonators per Marine

RANGE/TRAINING AREA: Facility Code 17961 Combat In Cities Facility

EQUIPMENT: Assault Breacher's kit, Squad demolitions kit, PPE

MATERIAL: Treble hook, electrical tape, duct tape

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Communications (radio)

1371-EOPS-2004: Repair damaged airfields (ADR)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Given a damaged airfield, SL-3 complete airfield damage repair (ADR) kit, heavy equipment support, a borrow pit, personnel, and communications equipment.

<u>STANDARD</u>: To meet surface roughness criteria in order to establish a functional Minimum Operating Strip (MOS) capable of launching and recovering aircraft in accordance with MCWP 3.21.1 Aviation Ground Support.

# PERFORMANCE STEPS:

- 1. Brief damage assessment teams.
- 2. Conduct damage assessment.
- 3. Recommend MOS.
- 4. Coordinate UXO clearance (as required).
- 5. Repair spalls and craters to meet surface roughness criteria.
- 6. Install FOD cover on repaired crater(s) (as required).

# REFERENCES:

- 1. MCWP 3.21.1 Aviation Ground Support
- 2. UFC 3-270-07 Airfield Damage Repair

# **SUPPORT REQUIREMENTS:**

RANGE/TRAINING AREA: Facility Code 17918 Road/Airfield Construction
Training Site.

**EQUIPMENT:** Airfield Damage repair (ADR) kit, 260 CFM, engineer equipment (420 backhoe, multi-terrain loader).

MATERIAL: Fine/course aggregate, sand grid, Pavemend

1371-EOPS-2006: Employ construction equipment kits

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: CPL, SGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Provided a construction shop with live power outlets, and references.

**STANDARD:** To ensure operability of all required components in accordance with appropriate technical manuals.

# PERFORMANCE STEPS:

- 1. Determine shop set electrical power requirements.
- 2. Assemble construction shop components set(s) (if required).
- 3. Select appropriate component(s).
- 4. Operate component(s).
- 5. Disassemble construction shop components set(s).

#### **REFERENCES:**

- 1. Appropriate Manufacturer's Assembly Manual/Instructions
- 2. TM 00425B-OR Tool Kit, Mason and Concrete Finisher
- 3. TM 08165B-OR Tool Kit, Shop Construction
- 4. TM 11441A-OR Tool Kit, Carpenter, Platoon
- 5. TM 11441AOR/1 Tool Kit, Carpenter, Squad

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17330 Covered Training Area

EQUIPMENT: Family of Engineer Tool Construction Kits (FETCK)

OTHER SUPPORT REQUIREMENTS: Fuel and electrical requirements

1371-EOPS-2008: Conduct chainsaw operations

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** In an operating environment, given a mission, personnel, equipment, and references.

**STANDARD:** To safely fell, limb and buck standing timber without injury to personnel and equipment in accordance with OSHA standards.

- 1. Analyze the mission.
- 2. Conduct site survey.
- 3. Determine escape routes.
- 4. Establish safe areas.

- 5. Task organize cut team(s).
- 6. Task organize equipment.
- 7. Ensure safety equipment is donned (or on site).
- 8. Establish control procedures.
- 9. Perform mission.
- 10. Submit required reports.

#### **REFERENCES:**

- 1. DoDI 6055.1 DoD Safety and Occupational Health (SOH) Program
- 2. MCRP 3-17B Engineer Forms and Reports
- 3. TC 90-6 Mountain Operations
- 4. TM 11423A-OR Tool Kit, Pioneer Platoon
- 5. USDA Forest Service, 1998 Safe Timber Harvesting, Univ. New Hmpshire

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17413 Field Training Area

EQUIPMENT: Platoon Pioneer kit, PPE

UNITS/PERSONNEL: Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Safety vehicle, Communications (radio)

1371-EOPS-2009: Conduct rigging

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a rigging task to be performed, appropriate timbers, lumber, fasteners, tools and equipment, suitable rope for the task, and references.

**STANDARD:** To meet the mission rigging requirements without incident in accordance with MCRP 3-17.7J Rigging Techniques (FM 5-125).

#### PERFORMANCE STEPS:

- 1. Review Mission.
- 2. Examine rigging assets available.
- 3. Examine resources as required.
- 4. Examine rigging for serviceability.
- 5. Tie appropriate knots and lashings.
- 6. Employ appropriate equipment to achieve required mechanical advantage.
- 7. Submit required reports.

#### **REFERENCES:**

- 1. MCRP 3-17.7J Rigging Techniques, Procedures, and Applications
- 2. MCRP 3-17A Engineer Field Data

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17413 Field Training Area

EQUIPMENT: Pioneer Kits (Squad, Platoon), Rope, Block and tackle, PPE

UNITS/PERSONNEL: Safety Officer, Corpsman

1371-HORZ-2001: Perform hasty soil analysis

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an unidentified soil sample, an SL-3 complete soil test kit and references.

**STANDARD:** To obtain a two-letter USCS classification, CBR, and moisture content in accordance with FM 3-410 Military Soils Engineering.

#### PERFORMANCE STEPS:

- 1. Obtain a soil sample.
- 2. Perform a visual examination of the soil.
- 3. Separate gravel.
- 4. Conduct field identification tests on the -40 material.
- 5. Determine the USCS classification.
- 6. Determine the CBR.
- 7. Determine the moisture content.
- 8. Record and report results.

# REFERENCES:

- 1. MCRP 3-17.7G Military Soils Engineering
- 2. MCRP 3-17.7H Materials Testing
- 3. MCRP 3-17A Engineering Field Data

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17413 Field Training Area

EQUIPMENT: Soils Test kit, Pioneer kit

1371-HORZ-2002: Design expedient drainage structures

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

GRADES: CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided a drainage structure requirement, a map, and references.

<u>STANDARD</u>: To intercept, collect, and remove surface water flowing toward a designated area from adjacent areas in accordance with MCRP 3-17.7A, Planning and Design of Roads, Airbases, and Heliports in the Theater of Operations.

# PERFORMANCE STEPS:

- 1. Review site specifications.
- 2. Calculate area of waterway/peak run off.
- 3. Determine type of drainage structure required.
- 4. Calculate size/amount of culvert required.
- 5. Design a drainage ditch.

#### **REFERENCES:**

- 1. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 2. MCRP 3-17A Engineering Field Data

1371-HORZ-2003: Construct expedient drainage structures

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: CPL, SGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Given design specifications, personnel, tools and equipment, and construction materials.

**STANDARD:** To ensure that ditch side slopes and longitudinal ditch slope; culverts; headwalls/wingwalls; and ditch lining all conform to the design specifications in accordance with MCRP 3-17.7A Planning and Design of Roads, Airbases, and Heliports in Theater of Operations.

# PERFORMANCE STEPS:

- 1. Review site specifications.
- 2. Task organize personnel and equipment.
- 3. Cut drainage ditches.
- 4. Excavate for culverts as required.
- 5. Install culverts.
- 6. Construct headwalls/wingwalls as required.
- 7. Install check dams as required.
- 8. Line ditches as required.

#### REFERENCES:

- 1. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 2. MCRP 3-17.7D Concrete and Masonry
- 3. MCRP 3-17.7I Earthmoving Operations
- 4. MCRP 3-17A Engineer Field Data

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17918 Road/Airfield Construction
Training Site.

**EQUIPMENT:** 260 CFM, concrete mixer, pioneer kit, engineer equipment (420 backhoe, dozer, TRAM, etc.)

MATERIAL: Corrugated steel culvert, Portland cement, fine/course
aggregates, concrete culverts, lumber, plywood, timber, fasteners,
retention rock

1371-HORZ-2004: Design a concrete slab on grade

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided specifications, writing materials, a calculator, and references.

**STANDARD:** To accommodate all dead and live loads considered and that design includes all reinforcement, joints and/or anchor bolts in accordance with the specifications and MCRP 3-17.7D Concrete & Masonry.

#### PERFORMANCE STEPS:

- 1. Review specifications.
- 2. Determine slab classification.
- 3. Determine minimum compressive strength.
- 4. Determine flexural tensile stress.
- 5. Determine equivalent static load and correct as necessary.
- 6. Determine slab thickness.
- 7. Determine minimum cement content.
- 8. Design form(s).
- 9. Generate a Bill of Materials.

#### **REFERENCES:**

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7D Concrete and Masonry
- 3. NAVPERS 0-486-20242-9 Basic Construction Techniques for Houses and Small Buildings

1371-MANT-2001: Maintain the unit's engineer equipment, chests, sets and kits maintenance programs

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** With access to Global Combat Support System-Marine Corps (GCSSMC), combat engineer equipment, chests, sets and kits, equipment records, maintenance forms and references.

**STANDARD:** To ensure maintenance management functions, maintenance resources, production, and information conform to unit MMSOP requirements per the references.

#### PERFORMANCE STEPS:

- 1. Maintain a publications library.
- 2. Complete GCSS-MC entries or Consolidated Engineer Equipment Log and Service Record (NAVMC 10524), as required.
- 3. Complete a Service Request (SR), as required.
- 4. Document Parts Requirements, as required.
- 5. Complete GCSS-MC entries or Engineer Equipment Operational Records (NAVMC 10523), as required.
- 6. Complete GCSS-MC entries or a General Purpose Transaction Document (NAVMC 696), as required.
- 7. Analyze the Maintenance Production Report (MPR).
- 8. Reconcile outstanding supply requests.
- 9. Complete modification control records, as required.
- 10. Direct maintenance program related actions, as required.

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. UNIT SOP Unit's Standing Operating Procedures
- 3. GPN Applicable GCSS-MC Procedural Notices (GPN)
- 4. MCO P4400.150\_ Consumer Level Supply Policy Manual
- 5. MCRP 3-0B How to Conduct Training
- 6. TM 4700-15/1\_ Ground Equipment Record Procedures

 $\underline{1371-MOBL-2001}$ : Design Tactical Landing Zones (TLZ)/Expeditionary Airfields (EAF)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a mission specifying number and/or type(s) of aircraft, DA Form 1711-R, engineer tools and equipment, EAF support, materials, and personnel.

**STANDARD:** To provide aircraft landing sites that meet structural and geometric design criteria for the type(s)/number(s) of aircraft anticipated for a TLZ, a surfaced EAF or an unsurfaced EAF per the mission specifications in accordance with MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations.

- 1. Analyze METT-T and reconnaissance forms, if provided.
- 2. Determine whether mission calls for a TLZ or a EAF.
- 3. Conduct site reconnaissance, keying on soil composition, drainage and obstructions.
- 4. Conduct area clearance as required.
- 5. Determine appropriate configuration.
- 6. Determine matting requirement (for EAF).
- 7. Calculate scope of engineer effort to prepare site.
- 8. Determine equipment requirements.
- 9. Estimate matting materials as required (for EAF).
- 10. Determine marking requirements.

#### **REFERENCES:**

- 1. MCRP 3-17.7B Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Airfield and Heliport Design
- 2. MCRP 3-17B Engineer Forms and Reports
- 3. MCWP 3-17.4 Engineer Reconnaissance
- 4. NAVAIR 00-80T-115 Expeditionary Airfield NATOPS Manual
- 5. NAVAIR 51-60A-1( ) AM2 Airfield Mat and Accessories

1371-MOBL-2002: Manage employment of the Medium Girder Bridge (MGB)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: CPL, SGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: As a designated bridge master, provided a completed MGB Pro Forma, a gap, Medium Girder Bridge set, tools, a launch vehicle, personnel and references.

**STANDARD:** To meet design specifications and intended bridge classification per the Pro Forma, while observing safety precautions and technical specifications during build, boom and launch in accordance with TM 5-5420-212-12 Medium Girder Bridge.

#### PERFORMANCE STEPS:

- 1. Review the references and the Pro Forma.
- 2. Make crew assignments.
- 3. Brief crews.
- 4. Direct lay out the site based on critical pallet loads.
- 5. Direct installation of front roller beam.
- 6. Direct build end of bridge (EOB)+1 components.
- 7. Direct installation of rear roller beam.
- 8. Direct the building and booming of bridge (to include nose configuration).
- 9. Direct the launch of bridge.
- 10. Direct the setting of bridge on deck (near and far shore).
- 11. Direct dressing of bridge.
- 12. DIrect anchoring as required.
- 13. Direct MGB retrieval (as required).

# **REFERENCES:**

- 1. MCRP 3-17A Engineer Field Data
- 2. TM 5-5420-212-12 Medium Girder Bridge
- 3. TM 5-5420-212-12-1 Link Reinforcement Set

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17920 Panel Bridge Area

 $\underline{\textbf{EQUIPMENT}}\colon$  Medium Girder Bridge (MGB) set, MGB Erection set, MGB Link Reinforcement set, 7-ton MTVR

UNITS/PERSONNEL: MGB Bridge Master, Corpsman

OTHER SUPPORT REQUIREMENTS: Communications (radio), Safety vehicle

1371-MOBL-2003: Operate Bridge Erection Boat (BEB)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a body of water, a bridge erection boat, tools, personnel, personal protective equipment (PPE), and the reference.

**STANDARD:** Using controls to maneuver 360 degrees around a stationary buoy while maintaining a 1 yard radius; perform a series of pier touches; and a pier side docking maneuver, all without damage to equipment while observing all safety and navigational precautions in accordance with TM 10020C-OI Operator's Manual Boat, Bridge Erection (MKIII).

# PERFORMANCE STEPS:

- 1. Inspect the launch area.
- Perform before/during/after operations checks on the boat/engine, as required.
- 3. Perform start up procedures.
- 4. Maneuver the boat using the buckets.
- 5. Maneuver the boat using the helm.

#### **REFERENCES:**

1. TM 10020C-OI Bridge Erection Boat (MKIII) Operator's Manual

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17922 Floating Bridge Site

EQUIPMENT: MKIII Bridge Erection Boat (BEB) SL-3 complete, 7-ton MTVR

UNITS/PERSONNEL: Corpsman, Safety swimmer

#### MISCELLANEOUS:

SPECIAL PERSONNEL CERTS: BEB licensed operator's per TM 11275-15/4 Engineer Equipment Licensing Manual

1371-MOBL-2004: Manage the employment of the Improved Ribbon Bridge (IRB)

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

**GRADES:** CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** As a float bridge master, given a complete IRB design, a wet gap crossing site, IRB components, bridge erection boats, fuel, IRB tools and equipment, motor transport support, personnel, personal protective equipment (PPE), and references.

**STANDARD:** To provide force mobility, employing the IRB within the time frame listed in the design criteria, while observing safety precautions in accordance with TM 5-5420-278-10 Operators Manual Improved Ribbon Bridge (IRB).

#### PERFORMANCE STEPS:

- 1. Review the references and the design specifications.
- 2. Brief crew on assignments.
- 3. Don all PPE.
- 4. Perform pre-operation checks and services on boats and IRB bays.
- 5. Deploy BEBs.
- 6. Deploy IRB bays.
- 7. Capture IRB bays.
- 8. Connect IRB bays.
- 9. Position the bridge.
- 10. Anchor the bridge.
- 11. Provide up-stream, in water security measures.
- 12. Retrieve the bridge.

#### **REFERENCES:**

- 1. MCRP 3-17A Engineer Field Data
- 2. TM 10020C-OI Bridge Erection Boat (MKIII)Operator's Manual
- 3. TM 11518A-OR Improved Ribbon Bridge (IRB) Operators Manual

### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17922 Floating Bridge Site

**EQUIPMENT:** Improved Ribbon Bridge (IRB) set, MKIII Bridge Erection Boat (BEB) SL-3 complete, MK48/18 LVSR, 7-ton MTVR

**<u>UNITS/PERSONNEL</u>**: Float bridge master, Corpsman, Safety swimmer.

# MISCELLANEOUS:

SPECIAL PERSONNEL CERTS: Licensed MKIII BEB operators per TM 11275-15/4 Engineer Equipment Licensing Manual

1371-MOBL-2005: Manage military rafting operations

**EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months** 

GRADES: CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** As a designated raft commander, provided mission specifications, a wet gap crossing site, IRB components, bridge erection boats, fuel, IRB tools, motor transport support, personnel, personal protective equipment (PPE), and references.

 $\underline{\mathtt{STANDARD}}$ : To provide force mobility while maintaining proper speed and adhering to navigational and operational safety requirements in accordance with TM 5-5420-278-10 Operators Manual Improved Ribbon Bridge (IRB).

# PERFORMANCE STEPS:

- 1. Review the references and specifications.
- 2. Brief/instruct the crew on the mission/assignment.
- 3. Inspect IRB components.
- 4. Don all PPE.
- 5. Conduct pre-operation checks and services on BEBs.
- 6. Launch BEBs.
- 7. Launch IRB components (ramp and interior bays as required in specifications).
- 8. Capture IRB components.
- 9. Maneuver IRB components into position.
- 10. Construct raft.
- 11. Re-position BEBs and rig to raft according to specifications.
- 12. Load raft.
- 13. Maneuver the raft.
- 14. Maintain rafting schedule.
- 15. Perform during-operation checks.
- 16. Perform post-operation checks and services.

#### REFERENCES:

- 1. MCRP 3-17A Engineer Field Data
- 2. MCWP 3-17.8 Combined Arms Mobility Operations
- 3. TM 10020C-OI Bridge Erection Boat (MKIII) Operator's Manual
- 4. TM 11518A-OR Improved Ribbon Bridge (IRB) Operators Manual

#### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17922 Floating Bridge Site

**EQUIPMENT:** Improved Ribbon Bridge (IRB) set, MKIII Bridge Erection Boat (BEB) SL-3 complete, MK48/18 LVSR, 7-ton MTVR

UNITS/PERSONNEL: Raft Commander, Corpsman, Safety Swimmer

OTHER SUPPORT REQUIREMENTS: Safety boat

# MISCELLANEOUS:

SPECIAL PERSONNEL CERTS: Licensed MKIII BEB operators per TM 11275-15/4 Engineer Equipment Licensing Manual

1371-MOBL-2010: Employ M58/M68 linear demolition charge

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 3 months

GRADES: CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given an M58/M68 Linear Demolition Charge, MK 22 Rocket, MK 155 Trailer Mounted Launcher, towing vehicle, personal protective equipment, and an area to fire the charge.

<u>STANDARD</u>: To breach a lane through a minefield or other linear obstacles as directed to enable force mobility in accordance with TM 08982A-14&P/2B Operators Manual for MK 155 Mine Clearance System.

# PERFORMANCE STEPS:

- 1. Inspect all equipment.
- 2. Set up M58/M68/M155 for employment.
- 3. Perform all circuit/pre-operational checks.
- 4. Move to firing area.
- 5. Ensure proper standoff distance.
- 6. Fire the rocket.
- 7. Fire the charge.
- 8. Perform immediate actions for misfire (if required).

#### **REFERENCES:**

- 1. MCRP 3-17.2D Explosive Hazard Operations
- 2. MCWP 3-17.3 MAGTF Breaching Operations
- 3. MCWP 3-17.8 Combined Arms Mobility Operations
- 4. TM 08982A-14&P/2B Operator's Manual for MK 155 Mine Clearance System

# SUPPORT REQUIREMENTS:

# ORDNANCE:

| DODIC                                     | Quantity            |
|-------------------------------------------|---------------------|
| J143 Rocket Motor, 5inch MK22 Mod 4       | 1 rocket per Team   |
| M913 Chg, Demo High Explosive Linear M58A | 1 charges per Team  |
| M914 Chg, Demo Inert Linear M68A2         | 1 charges per squad |

**RANGE/TRAINING AREA:** Facility Code 17820 Engineer Qualification Range, Non-Standardized.

**EQUIPMENT:** MCLIC Trailer (M353), PPE

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Crane (loading/unloading, Ammunition vehicle, Safety vehicle, Communications (radio)

1371-MOBL-2011: Employ the APOBS

**EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months** 

GRADES: CPL, SGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Given an anti-personnel minefield or wire obstacle, Antipersonnel Obstacle Breaching System (APOBS), demolition tools, equipment, and personal protective equipment.

**STANDARD:** To clear a lane through the obstacle while observing all safety precautions in accordance with TM 013750-13&P Operators Manual MK-7 MOD 1 Anti-Personnel Obstacle Breaching System (ABOBS).

- 1. Inspect all equipment.
- 2. Set up APOBS.
- 3. Perform circuit/pre-deployment checks.
- 4. Move to firing area.
- 5. Ensure proper standoff.
- 6. Initiate the system.
- 7. Perform immediate action for misfire (if required).

#### **REFERENCES:**

- 1. MCRP 3-17.2D Explosive Hazard Operations
- 2. TM 013750-13&P Operators Manual MK-7 MOD. 1 Anti-Personnel Obstacle Breaching System (APOBS)

# SUPPORT REQUIREMENTS:

#### **ORDNANCE:**

 $\frac{\text{DODIC}}{\text{MN79 Mine, Antipersonnel Obstacle Breachi}} \qquad \frac{\text{Quantity}}{\text{1 charges per Team}}$ 

RANGE/TRAINING AREA: Facility Code 17820 Engineer Qualification Range,
Non-Standardized

**EQUIPMENT:** PPE

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Ammunition vehicle, Safety Vehicle,

Communications (radio)

1371-MOBL-2012: Conduct obstacle breaching operations

**EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months** 

GRADES: CPL, SGT, SSGT

**INITIAL TRAINING SETTING: FORMAL** 

**CONDITION:** Given a mission specifying available supporting arms, personnel with full combat load per T/O weapon, demolitions tools, engineer equipment, and Class V.

**STANDARD:** To reduce linear obstacles or breach a lane through a minefield/explosive hazard in accordance with MCWP 3-17.3 MAGTF Breaching Operations.

- 1. Analyze METT-T and available reconnaissance reports.
- Organize obstacle clearing detachment(s).
- 3. Proceed to final assembly area.
- 4. Verify obstacle location(s) and possible bypass route(s).
- 5. Move to obstacle while suppressing enemy fire.
- 6. Direct reduction of enemy positions.
- 7. Coordinate obscuration of entire obstacle with supporting arms.
- 8. Direct reduction of the obstacle(s).
- 9. Set up security on near side of obstacle.

- 10. Proof the lane.
- 11. Mark the lane.
- 12. Control movement through the breach.
- 13. Conduct turnover of breaching lane(s) to supporting units.
- 14. Consolidate and re-supply the breach force.

#### **REFERENCES:**

- 1. Applicable technical references
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineer Field Data
- 5. MCWP 3-17.3 MAGTF Breaching Operations
- 6. MCWP 3-17.8 Combined Arms Mobility Operations
- 7. TM 013750-13&P Operators Manual MK-7 MOD. 1 Anti-Personnel Obstacle Breaching System (APOBS)
- 8. TM 08982A-14&P/2B Operator's Manual for MK 155 Mine Clearance System

# SUPPORT REQUIREMENTS:

#### ORDNANCE:

| DODIC                                     | Quantity                 |
|-------------------------------------------|--------------------------|
| G940 Gren, Hand Green Smoke M18           | 2 grenades per Team      |
| G945 Gren, Hand Yellow Smoke M18          | 2 grenades per Team      |
| G982 Gren, Hand Smoke TA M83              | 2 grenades per Team      |
| HX05 Rocket, 83mm HE Dualmode             | 2 rockets per Team       |
| J143 Rocket Motor, 5inch MK22 Mod 4       | 1 rocket per Team        |
| L312 Signal, Illumination Ground White St | 2 signals per Team       |
| L314 Signal, Illumination Ground Green St | 2 signals per Team       |
| M023 Chg, Demo Block M112 11/4 pound C4   | 2 charges per Marine     |
| M028 Demo Kit, Bangalore Torpedo M1A2     | 1 cases per Team         |
| M130 Cap, Blasting Electric M6            | 6 blasting caps per Team |
| M131 Cap, Blasting Non-Electric M7        | 6 blasting caps per Team |
| M456 Cord, Detonating PETN Type I Class E | 1500 FT per Team         |
| M670 Fuse, Blasting Time M700             | 500 FT per Team          |
| M757 Chg, Assembly Demo M183 Comp C4      | 1 cases per Team         |
| M913 Chg, Demo High Explosive Linear M58A | 1 charges per Team       |
| MN08 Igniter, Time Blasting Fuse with Sho | 8 igniters per Team      |
| MN14 Firing Device, Dual Mode MK54        | 1 detonators per Team    |
| MN52 Detonator, Percussion, NonElectric M | 6 detonators per Team    |
| MN88 Cap, Blasting, Non-Electric, M21 w/  | 2 blasting caps per Team |
|                                           |                          |

# RANGE/TRAINING AREA:

| Facility Code 17410 | Maneuver/Training Area, Light Forces           |
|---------------------|------------------------------------------------|
| Facility Code 17413 | Field Training Area                            |
| Facility Code 17420 | Maneuver/Training Area, Heavy Forces           |
| Facility Code 17820 | Engineer Qualification Range, Non-Standardized |
| Facility Code 17830 | Light Demolition Range                         |

**EQUIPMENT:** MCLIC trailer, Squad demolitions kit, Minefield marking kit, MK153 SMAW, PPE

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: AAV vehicle, 7-ton MTVR, ACE, Ammunition vehicle, Safety vehicle

1371-MOBL-2013: Engage stationary targets with the shotgun

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

**GRADES:** CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a shotgun, personal protective equipment, targets, and ammunition, while employing combat marksmanship techniques.

STANDARD: To assess ammunition effects on paper targets from 15 yards.

# PERFORMANCE STEPS:

- 1. Perform weapons handling procedures with the shotgun.
- 2. Clear the shotgun.
- 3. Select the appropriate ammunition type.
- 4. Fill the magazine tube.
- 5. Place the weapon in Condition 1.
- 6. Effectively engage targets on command.
- 7. Place weapon in Condition 4.
- 8. Assess ammunition effects from 15 yards.
- 9. Repeat stteps 1 through 7 with "weak" side from 15 yards.
- 10. Unload weapon and show clear.
- 11. Maintain the shotgun.

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCRP 3-10 A Rifle Marksmanship
- 3. TM 1003A/07172A/09081A-13P Operator and Maintenance Manual, Model 500, Mossberg 12-gauge shotgun
- 4. TM 1005A-303-14 SHOTGUN M1200 WINCHESTER

# SUPPORT REQUIREMENTS:

# ORDNANCE:

 $\frac{\text{DODIC}}{\text{A011 Ctg, 12 Gauge $\#00$ Buckshot M162}} \qquad \qquad \frac{\text{Quantity}}{\text{6 rounds per Marine}} \\ \text{A023 Ctg, 12 Gauge 1 Ounce Slug Commercia} \qquad 3 \text{ rounds per Marine} \\$ 

RANGE/TRAINING AREA: Facility Code 17502 Non-Standard Small Arms Range

**EQUIPMENT:** Shotgun, PPE

MATERIAL: B Mod target

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Safety vehicle, Communications (radio)

1371-MOBL-2014: Perform select shot drills with the shotgun

**EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months** 

GRADES: CPL, SGT

# INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a shotgun, personal protective equipment (PPE), targets and ammunition.

STANDARD: Without allowing the shotgun to cycle out of ammunition.

# PERFORMANCE STEPS:

- 1. Clear the shotgun.
- 2. Assume the Ready Carry.
- 3. Fill the magazine tube with three rounds.
- 4. Place the weapon in Condition 1.
- 5. Engage paper targets while conducting magazine tube not fully filled procedures.
- 6. Place the weapon in Condition 4.
- 7. Fill the magazine tube completely.
- 8. Place the weapon in Condition 1.
- 9. Fill the magazine tube with one final round.
- 10. Engage paper targets while conducting magazine tube fully filled procedures.
- 11. Place the weapon in Condition 4.
- 12. Maintain the shotgun.

#### REFERENCES:

- 1. MCRP 3-10 A Rifle Marksmanship
- 2. TM 1003A/07172A/09081A-13P Operator and Maintenance Manual, Model 500, Mossberg 12-gauge shotgun
- 3. TM 1005A-303-14 SHOTGUN M1200 WINCHESTER

# SUPPORT REQUIREMENTS:

# **ORDNANCE:**

| <u></u>                                    |                     |
|--------------------------------------------|---------------------|
| DODIC                                      | Quantity            |
| A011 Ctg, 12 Gauge #00 Buckshot M162       | 6 rounds per Marine |
| A023 Ctg, 12 Gauge 1 Ounce Slug Commercia  | 3 rounds per Marine |
| AA54- Cartridge, 12 Gauge, Breaching, M103 | 3 rounds per Marine |

RANGE/TRAINING AREA: Facility Code 17502 Non-Standard Small Arms Range

**EQUIPMENT:** Shotgun, PPE

MATERIAL: B Mod target material

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Safety vehicle, Communications (radio)

1371-MOBL-2015: Qualify with the shotgun

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

GRADES: CPL, SGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Given a shotgun, personal protective equipment (PPE), targets, a scorecard, a verifier, and ammunition.

**STANDARD:** Scoring a minimum of 70% in total hits on a stationary target from 25 yards.

#### PERFORMANCE STEPS:

- 1. Clear the shotgun.
- 2. Fill magazine tube with appropriate ammunition.
- 3. Place the weapon in Condition One.
- 4. Engage targets on command.
- 5. Place the weapon in Condition Four.
- 6. Assess targets.
- 7. Fill magazine tube with appropriate ammunition.
- 8. Place the weapon in Condition One.
- 9. Engage targets on command.
- 10. Place the weapon in Condition Four.
- 11. Assess targets.
- 12. Maintain the shotgun.

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCRP 3-10 A Rifle Marksmanship
- 3. TM 1003A/07172A/09081A-13P Operator and Maintenance Manual, Model 500, Mossberg 12-gauge shotgun
- 4. TM 1005A-303-14 SHOTGUN M1200 WINCHESTER

# SUPPORT REQUIREMENTS:

#### **ORDNANCE:**

DODIC Quantity

A011 Ctg, 12 Gauge #00 Buckshot M162 10 rounds per Marine

RANGE/TRAINING AREA: Facility Code 17502 Non-Standard Small Arms Range

**EQUIPMENT:** Shotgun, PPE

MATERIAL: Target material to score hits

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Safety vehicle, Communications (radio)

1371-MOBL-2016: Conduct ballistic breach

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**GRADES:** CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a determined point of entry to breach, a shotgun, ammunition, personal protective equipment (PPE), and a door in frame with lockset.

**STANDARD:** To defeat the target in accordance with FM 3-06.11 Combined Arms Operations in Urban Terrain.

#### PERFORMANCE STEPS:

- 1. Select the appropriate ammunition.
- 2. Fill the magazine tube with suitable ammunition.
- 3. Place the weapon in Condition One.
- 4. Select attack point(s) on the target.
- 5. Position the muzzle.
- 6. Fire the shotgun.
- 7. Perform immediate action as required.
- 8. Perform remedial action as required.
- 9. Follow up with mechanical breaching as required.
- 10. Reload and prepare for follow-on actions.
- 11. Maintain the shotgun.

#### **REFERENCES:**

- 1. Appropriate Reference Materials
- 2. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 3. TM 1003A/07172A/09081A-13P Operator and Maintenance Manual, Model 500, Mossberg 12-gauge shotgun
- 4. TM 1005A-303-14 SHOTGUN M1200 WINCHESTER

### SUPPORT REQUIREMENTS:

#### **ORDNANCE:**

DODIC
AA54- Cartridge, 12 Gauge, Breaching, M103 Grounds per Marine

RANGE/TRAINING AREA: Facility Code 17961 Combat In Cities Facility

EQUIPMENT: Shotgun, Marine assault breacher's kit, PPE

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Safety vehicle, Communications (radio)

1371-MOBL-2018: Lead a dismounted route sweep

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 3 months

**GRADES:** CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical situation, a route to be swept, route sweeping equipment, a map, personnel, and a route sweep order.

**STANDARD:** To locate, mark, and/or reduce all explosive hazards/obstacles on the designated route in accordance with MCRP 3-17.2D Explosive Hazard Operations.

- 1. Analyze mission.
- 2. Task organize personnel and equipment.

- 3. Issue the order.
- 4. Conduct rehearsals.
- 5. Ensure all mines/obstacles are detected, marked, and reduced (as required).
- 6. Submit required reports.

#### REFERENCES:

- 1. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17A Engineer Field Data
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.3 MAGTF Breaching Operations
- 7. MCWP 3-17.4 Engineer Reconnaissance

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17410 Maneuver/Training Area, Light

Forces

EQUIPMENT: Handheld detectors, Minefield marking kit

1371-MOBL-2019: Perform manual breaching

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

GRADES: CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**<u>CONDITION</u>**: Given a designated target, breaching tools, and personal protective equipment (PPE).

**STANDARD:** To execute a successful breach utilizing the appropriate mechanical method in accordance with MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT).

#### PERFORMANCE STEPS:

- 1. Conduct target analysis.
- 2. Select appropriate tool.
- 3. Employ the tool.

# RELATED EVENTS:

| 1371-DEMO-2007 | 1371-DEMO-2008 | 1371-DEMO-2009 |
|----------------|----------------|----------------|
| 1371-DEMO-2010 | 1371-DEMO-2011 | 1371-DEMO-2012 |
| 1371-DEMO-2013 | 1371-DEMO-2014 |                |

# REFERENCES:

- 1. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)
- 2. VOLUME I Guidebook for Assault Entry Techniques, Volume I
- 3. VOLUME II Guidebook for Assault Entry Techniques Volume II

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17961 Combat In Cities Facility

EQUIPMENT: Marine Assault Breacher's kit, PPE

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Safety vehicle, Communications (radio)

1371-MOBL-2022: Identify Explosive Hazards (EH)

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 3 months

**GRADES:** CPL, SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an operating environment, suspected explosive hazards, combat engineer equipment, field protective equipment and publications/ORDATA

**STANDARD:** By category, country of origin, type of function, safeties and conditions.

#### PERFORMANCE STEPS:

- 1. Visually identify explosive hazard markers and indicators.
- 2. Identify components of Improvised Explosive Devices (IEDs).
- 3. Identify booby traps.
- 4. Identify thrown munitions.
- 5. Identify projected munitions.
- 6. Identify dropped munitions.
- 7. Identify placed munitions.
- 8. Record and report results.

# REFERENCES:

- 1. Appropriate Reference Materials
- 2. CHB Country Handbooks
- 3. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 4. MCRP 3-17.2D Explosive Hazard Operations
- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCRP 3-17A Engineer Field Data
- 7. ORD ORDATA II (Software)
- 8. SWO 60-AA-MMA-010 Demolition Materials

# SUPPORT REQUIREMENTS:

# RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces

**EQUIPMENT:** Ordata II, robots

MATERIAL: Inert explosive hazards

1371-MOBL-2023: Reduce Explosive Hazards (EH)

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

GRADES: CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Given an operating environment, a positively identified explosive hazard, combat engineer equipment, Class V, personal protective equipment, commander's decision and references.

**STANDARD:** By calculating, placing and detonating an explosive charge that will result in the reduction of the explosive hazard and allow for assured mobility in accordance with MCIP 3-17.1 Improvised Explosive Device (IED) Defeat.

# PERFORMANCE STEPS:

- 1. Evaluate go/no go criteria per the explosive hazard decision matrix.
- 2. Employ protective measures.
- 3. Build a charge.
- 4. Remotely place the charge.
- 5. Detonate the charge.
- 6. Report results.

#### REFERENCES:

- 1. Appropriate Technical Manuals
- 2. MCIP 3-17.01 Combined Arms Improvised Explosive Device Defeat Operations
- 3. MCRP 3-17.2D Explosive Hazard Operations
- 4. MCRP 3-17.7L Explosives and Demolitions
- 5. MCRP 3-17A Engineer Field Data
- 6. MCRP 5-12.1C Risk Management Cancelled w/o replacement
- 7. MCWP 3-1 Ground Combat Operations
- 8. MCWP 3-17 Engineer Operations
- 9. MCWP 3-17.2 MAGTF Explosive Ordnance Disposal
- 10. MCWP 3-17.3 MAGTF Breaching Operations
- 11. MCWP 3-17.4 Engineer Reconnaissance
- 12. MCWP 3-17.8 Combined Arms Mobility Operations
- 13. MCWP 3-35.3 Military Operations on Urbanized Terrain (MOUT)

# SUPPORT REQUIREMENTS:

#### ORDNANCE:

| DODIC                                     | Quantity                 |
|-------------------------------------------|--------------------------|
| M023 Chg, Demo Block M112 11/4 pound C4   | 2 charges per Marine     |
| M131 Cap, Blasting Non-Electric M7        | 4 blasting caps per Team |
| M456 Cord, Detonating PETN Type I Class E | 10 FT per Marine         |
| M670 Fuse, Blasting Time M700             | 500 FT per Team          |
| M757 Chg, Assembly Demo M183 Comp C4      | 2 charges per Team       |
| MN08 Igniter, Time Blasting Fuse with Sho | 2 igniters per Marine    |
| MN88 Cap, Blasting, Non-Electric, M21 w/  | 1 detonators per Team    |
| MN90 Cap, Blasting, Non-Electric, M23 w/  | 1 detonators per Marine  |

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

EQUIPMENT: Squad demolitions kit, robot, PPE

MATERIAL: Electrical tape, duct tape, prop stick

UNITS/PERSONNEL: Range OIC, Range Safety Officer, Corpsman

OTHER SUPPORT REQUIREMENTS: Ammunition vehicle, Safety vehicle,

Communications (radio)

1371-MOBL-2024: Operate the Route Clearance Medium Mine Protected Vehicle (MMPV)

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 3 months

GRADES: PVT, PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Given an operational MMPV, the applicable peculiar support equipment (PSE), operator forms/records, and a vehicle crew.

**STANDARD:** To safely complete the vehicle operation without injury to personnel, or damage to the vehicle in accordance with appropriate manufacture TM.

#### PERFORMANCE STEPS:

- 1. Perform before operational Preventative Maintenance Checks and Services (PMCS).
- 2. Prepare operator forms/records.
- 3. Perform applied government furnished equipment (GPE) initializations (as required).
- 4. Communicate using the vehicle's internal crew communications equipment (as required).
- 5. Operate the vehicle in prescribed tactical formation(s).
- 6. Operate the vehicle with the applied Mine Roller System (MRS) equipment (as required).
- 7. Operate the vehicle in varied terrains/surfaces.
- 8. Operate the vehicle in varied limited visibility conditions.
- 9. Perform vehicle eqress procedures (as required).
- 10. Perform vehicle recovery procedures (as required).
- 11. Operate on-board MRAP winch (as required).
- 12. Perform during operational PMCS.
- 13. Perform post operational PMCS.
- 14. Complete operator forms/records.

# REFERENCES:

- 1. Appropriate Technical Manuals
- 2. TM 10001620 Operator's Manual for Cougar, Mine Resistant Ambush Protected (MRAP) 4x4
- 3. TM 10001624 Operator's Manual for Cougar, Mine Resistant Ambush Protected (MRAP) 6X6
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: In accordance with the current licensing manuals, MMPV operators must possess a valid OF-346 Incidental Operator's License for the Up-Armored HMMWV, and have either a CAT I/II MRAP license

or a valid CAT  $\ensuremath{\mathsf{I/II}}$  Learner's Permit until licensing standards have been met.

1371-MOBL-2025: Operate the Route Clearance Mine Protected Clearance Vehicle (MPCV)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 3 months

GRADES: PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** As a member of a route clearance team, given an operational MPCV, the applicable government furnished equipment (GFE), operator forms/records, a vehicle crew and references.

**STANDARD:** To safely complete the vehicle operation without injury to personnel, or damage to the vehicle in accordance with the appropriate manufacture TM.

#### PERFORMANCE STEPS:

- 1. Perform before operations Preventative Maintenance Checks and Services (PMCS).
- 2. Prepare operator forms/records.
- 3. Perform applied government furnished equipment (GFE) initializations (as required).
- 4. Perform Interrogation Arm/Camera initializations.
- 5. Communicate using the vehicle's internal crew communications equipment (as required).
- 6. Operate the vehicle in prescribed tactical formation(s).
- 7. Operate the vehicle in varied terrains/surfaces.
- 8. Operate the vehicle in varied limited visibility conditions.
- 9. Perform Interrogation Arm/Camera operations (as required).
- 10. Perform vehicle egress procedures (as required).
- 11. Perform vehicle recovery procedures (as required).
- 12. Perform during operations PMCS.
- 13. Perform post operations PMCS.
- 14. Complete operational forms/records.

# REFERENCES:

- 1. Appropriate Technical Manuals
- 2. TM 11217A-OI/1 Operator's Manual for Buffalo Mine Protected Clearance Vehicle, MK1&MK2
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures

# MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: In accordance with the current licensing manuals, MPCV operators must possess a valid OF-346 Incidental Operator's License for the Up-Armored HMMWV and CAT I/II MRAP; and have either a CAT III license or a valid CAT III learners permit until the MPCV licensing standards have been met.

1371-MOBL-2026: Operate the Route Clearance Vehicle Mounted Mine Detector (VMMD) Vehicle

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 1 month

GRADES: PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** As a member of a route clearance team, given an operational VMMD, Mine Detonation Trailer (MDT) set, and the operator forms/records and references.

**STANDARD:** To safely complete the vehicle operation without injury to personnel, or damage to the vehicle in accordance with the manufacture TM.

#### PERFORMANCE STEPS:

- 1. Perform before operations Preventative Maintenance Checks and Services (PMCS).
- 2. Prepare operator forms/records.
- 3. Perform Mine Detection System (MDS) system initializations.
- 4. Perform applied government furnished equipment (GFE) initializations (as required).
- 5. Operate the vehicle in prescribed tactical formation(s).
- 6. Operate the vehicle in varied terrains/surfaces.
- 7. Operate the vehicle in varied limited visibility conditions.
- 8. Perform detection operations PIR (as required).
- 9. Perform detection with the GPR.
- 10. Perform vehicle egress procedures (as required).
- 11. Perform vehicle recovery procedures (as required).
- 12. Perform during operations PMCS.
- 13. Perform post operations PMCS.
- 14. Complete operator forms/records.

# REFERENCES:

- 1. Appropriate Technical Manuals
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures
- 3. TM X-XXX-XXX (Draft) Operator's Manual for Interim Vehicle Mounted Mine Detection (IVMMD) MK II System
- 4. User Guide Husky, MK III Vehicle Mounted Mine Detector (VMMD) Operator's Field User's Guide

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: In accordance with the current licensing manuals, VMMD operators must possess a valid OF-346 Operator's License for the VMMD.

1371-MOBL-2027: Operate the Route Clearance Vehicle's Government Furnished Equipment (GFE)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 1 month

GRADES: PFC, LCPL, CPL, SGT, SSGT

# INITIAL TRAINING SETTING: MOJT

**CONDITION:** As a member of a route clearance team, given an operational route clearance vehicle, the GFE components, and references.

**STANDARD:** To safely operate the GFE during vehicle operations without injury to personnel, or damage to the GFE component(s) in accordance with the manufacture TM.

#### PERFORMANCE STEPS:

- 1. Perform before operations GFE Preventative Maintenance Checks and Services (PMCS).
- 2. Prepare operator GFE forms/records.
- 3. Operate the vehicle's Driver Vision Enhancer (DVE) device (as required).
- 4. Operate the vehicle's Blue Force Tracker (BFT) (as required).
- 5. Operate the vehicle's crew intercom communications equipment (as required).
- 6. Operate the vehicle's radio communications equipment (as required).
- 7. Operate the vehicle's Counter Radio Controlled Improvised Explosive Device Electronic Warfare (CREW) device (as required).
- 8. Operate the vehicle's Air Digger device (as required).
- 9. Operate the vehicle's Tactical Operations Center Network (TOCNET) Inter-Communication System (as required).
- 10. Operate the vehicle's mounted sensor system (GYROCAM/VOSS) (as required).
- 11. Operate the Mine Roller System (MRS) (as required).
- 12. Perform during operations GFE PMCS.
- 13. Perform post operations GFE PMCS.
- 14. Complete operator GFE forms/records.

# **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. TM 10001620 Operator's Manual for Cougar, Mine Resistant Ambush Protected (MRAP) 4X4
- 3. TM 10001624 Operator's Manual for Cougar, Mine Resistant Ambush Protected (MRAP) 6X6
- 4. TM 11217A-OI/1 Operator's Manual for Buffalo Mine Protected Clearance Vehicle, MK1&MK2
- 5. TM X-XXX-XXX (Draft) Operator's Manual for Interim Vehicle Mounted Mine Detection (IVMMD) MK II System
- 6. User Guide Husky, MK III Vehicle Mounted Mine Detector (VMMD) Operator's Field User's Guide

1371-MOBL-2028: Operate a Combat Rubber Reconnaissance Craft (CRRC)

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Given a combat rubber reconnaissance craft (CRRC), a littoral environment, appropriate tools, supplies and equipment, personal protective equipment (PPE), and under approved operating conditions.

**STANDARD:** To perform confined space and open water maneuvers without damage to equipment or injury to personnel, in accordance with TM 09665A-13&P/1-1 Operation and Maintenance of the Combat Rubber Reconnaissance Craft.

# PERFORMANCE STEPS:

- 1. Inspect launch area.
- 2. Conduct pre-operations checks and sevices.
- 3. Perform confined space maneuvers.
- 4. Perform open water maneuvers.
- 5. Conduct post operations checks and services.

# **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. TM 09665A-13&P/1-1 Operation and Maintenance of the Combat Rubber Reconnaissance Craft
- 3. TM 09665A-13&P/1-2 Operation and Maintenance of the Combat Rubber Reconnaissance Craft
- 4. TM 09665B/10717A Small Craft Propulsion System, CRRC

#### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17922 Floating Bridge Site

**EQUIPMENT:** (1) CRRC SL-3 Complete

OTHER SUPPORT REQUIREMENTS: Pre-operations checklist, Post operations

checklist

1371-MOBL-2035: Operate a robot

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 3 months

**GRADES:** PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an operating environment, suspected explosive hazards, a combat engineer robot, personal protective equipment and references.

**STANDARD:** To perform remote operations without injury to personnel or damage to equipment, per the operator's manual.

#### PERFORMANCE STEPS:

- Identify hazard(s).
- 2. Prepare robot for operation.
- 3. Operate the robot
- 4. Conduct robotic reconnaissance.
- 5. Retrieve the robot.
- 6. Conduct post-op PMCS.

# REFERENCES:

- 1. Appropriate Manufacturer's Assembly Manual/Instructions
- 2. Appropriate Technical Manuals
- 3. FM 3-06 Urban Operations
- 4. MCRP 3-17.2D Explosive Hazard Operations

- 5. MCRP 3-17.7L Explosives and Demolitions
- 6. MCWP 3-17.4 Engineer Reconnaissance
- 7. MCWP 3-17.8 Combined Arms Mobility Operations

#### SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17413 Field Training Area

EQUIPMENT: PacBot 510 w/FASTAC Kit, SUGV 310, SUGV 320

UNITS/PERSONNEL: Range OIC, Range Safety Officer

OTHER SUPPORT REQUIREMENTS: Obstacles to represent urban and rural conditions Inert explosive hazards or mock-ups

1371-RECN-2001: Conduct engineer reconnaissance

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a mission, maps, personnel and equipment, appropriate reconnaissance reporting forms, overlay material, and references.

**STANDARD:** To classify roads, routes, and bridges; evaluate tunnels, fords, and ferry sites; identify obstacles; bypasses; and record relevant engineer information on the appropriate reconnaissance forms and transferred to a map overlay using engineer/tactical symbols.

# PERFORMANCE STEPS:

- 1. Analyze mission.
- 2. Review the map of the route to be taken.
- 3. Proceed to assigned objective.
- 4. Calculate route width (minimum and maximum).
- 5. Determine shoulder condition (if any).
- 6. Determine surface material.
- 7. Plot length of passable route.
- 8. List obstacles.
- 9. Indicate special weather conditions which may affect the route.
- 10. Identify constrictions.
- 11. Determine overhead clearance.
- 12. Classify road(s).
- 13. Record cover and concealment.
- 14. Identify underpasses.
- 15. Calculate tunnel specifications.
- 16. Classify bridge(s) (if any).
- 17. Determine wet gap fording/bridging/ferrying sites.
- 18. Identify suitable bypasses.
- 19. Classify the route.
- 20. Submit reconnaissance report(s) and overlays.

#### REFERENCES:

1. GTA 05-02-012 Coordinated Scale and Protractor

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- 2. GTA 05-07-013 Rapid Field Classification Booklet
- 3. GTA 5-2-5 Engineer Reconnaissance
- 4. MCRP 3-17A Engineer Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.4 Engineer Reconnaissance

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17413 Field Training Area

1371-RECN-2002: Conduct demolition reconnaissance

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a mission to conduct a reconnaissance of a target designated for demolition, map of area, compass, measuring tape, appropriate form(s), and references.

STANDARD: Complete all blocks of the appropriate form(s) to determine quantity of explosives required to produce the desired effect on the target(s); determine the time, labor, and logistics necessary to accomplish the mission; and capture a sketch of the proposed target(s) in accordance with the MCRP 3-17.7L Explosives and Demolitions.

# PERFORMANCE STEPS:

- 1. Analyze mission.
- 2. Conduct map reconnaissance.
- 3. Proceed to assigned objective.
- 4. Estimate explosives and logistics required.
- 5. Estimate personnel and time required to complete mission.
- 6. Identify bypass requirements.
- 7. Sketch side views of target and cross sections of members to be cut.
- 8. Sketch a plan of the firing circuits and firing points.
- 9. Submit appropriate form(s).

# REFERENCES:

- 1. GTA 05-07-013 Rapid Field Classification Booklet
- 2. GTA 05-10-033 Demolition Card
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17A Engineer Field Data
- 5. MCRP 3-17B Engineer Forms and Reports
- 6. MCWP 3-17 Engineering Operations
- 7. MCWP 3-17.4 Engineer Reconnaissance

# SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17413 Field Training Area

1371-SURV-2001: Design survivability positions

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a force protection requirement and references.

**STANDARD:** To counteract the known effects of enemy direct and indirect fire weapons in accordance with MCWP 3-17.6 Survivability Operations.

#### PERFORMANCE STEPS:

- 1. Submit Requests for Information (RFI) to S/G-2.
- 2. Determine types of positions required.
- 3. Design positions.
- 4. Determine material requirements.
- 5. Calculate the time required for construction.
- 6. Submit designs/work estimates.

## **REFERENCES:**

- 1. GTA 05-08-001 Survivability Positions
- 2. GTA 07-06-001 Fighting Position ConstructionInfantry Leader's Reference Card
- 3. GTA 90-01-011 Joint Forward Operations Base (JFOB) Protection Handbook
- 4. GTA 90-01-018 Joint Entry Control Point & Escalation of Force Procedures
- 5. MCRP 3-17A Engineer Field Data
- 6. MCWP 3-17.6 Survivability Operations

1371-VERT-2002: Layout wood frame structure

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 6 months

GRADES: CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a construction site, construction blueprints/drawings, design specifications, an engineer carpenter's kit, Class IV, and references.

<u>STANDARD</u>: To ensure that building corners are exactly 90 degrees; truss jigs are built to the specified pitch; the sum of stair stringer risers and treads is between 17 and 19 inches; and walls are level and plumb.

- 1. Lay out a rectangle.
- 2. Set batter board posts.
- 3. Drive corner stakes.
- 4. Install batter boards to finished heights.
- 5. Run building lines.
- 6. Square building lines.
- 7. Lay out wall components.
- 8. Lay out truss components.
- 9. Lay out stair components.

- 1. MCRP 3-17.7C Carpentry
- 2. ModCarp 2008 Modern Carpentry, 11 Edition Wagner/Smith
- 3. NAVPERS 0-486-20242-9 Basic Construction Techniques for Houses and Small Buildings

## SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA: Facility Code 17330 Covered Training Area

UNITS/PERSONNEL: 1361 Surveyor

21005. 2500-LEVEL EVENTS

1371-ADMN-2501: Deliver a military brief

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: SSGT, GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission, operations order and references.

**STANDARD:** To provide an oral description of the current engineer situation, proposed execution, and logistical support capabilities and limitations.

## PERFORMANCE STEPS:

- 1. Review the operations order.
- 2. Review the engineer situation.
- 3. Develop a briefing outline for the engineer situation.
- 4. Brief engineer situation to the commander.

## REFERENCES:

- 1. MCWP 3-17 Engineering Operations
- 2. MCWP 3-40.1 MAGTF Command and Control

1371-ADMN-2502: Support the Marine Corps Capabilities Based Assessment (MC CBA) process

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**GRADES:** GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a situation, while representing engineer operating forces.

**STANDARD:** To aid in the development of solutions and enhance the engineer capabilities across the MAGTF.

## PERFORMANCE STEPS:

1. Assist in supporting the engineer advocacy process.

- Assist in providing input into the capabilities analysis phase, as required.
- 3. Assist in providing input into the gap analysis phase, as required.
- 4. Assist in providing input into the solutions analysis phase, as required.
- 5. Assist in providing input into the risk analysis phase, as required.
- 6. Review comments on products developed within the MC CBA prior to submission to Marine Corps Requirements Oversight Council (MROC), as required.

- 1. MCO 3900.15C Marine Corps Capabilities Based Assessment (MC CBA)
- 2. MCO 3900.17\_ The Marine Corps Urgent Needs Process (UNP) and the Urgent Universal Need Statement (Urgent UNS)

1371-CMOB-2501: Prepare an obstacle plan

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: SSGT, GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Given a tactical situation, supported commander's intent and planning guidance, intelligence reports, map, Higher Headquarters operations order, and references.

**STANDARD:** To shape enemy maneuver and maximize the effects of fire by integrating countermobility tasks into the operations plan or order.

## PERFORMANCE STEPS:

- 1. Analyze mission.
- 2. Conduct Intelligence Preparation of the Battlespace (IPB).
- 3. Identify reinforcing obstacles to support the commander's intent.
- 4. Conduct obstacle integration.
- 5. Identify resource requirements.
- 6. Coordinate support requirements.
- 7. Develop overlay and an obstacle plan appendix and reports, as required.

#### REFERENCES:

- 1. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCWP 3-1 Ground Combat Operations
- 4. MCWP 3-17 Engineering Operations
- 5. MCWP 3-17.4 Engineer Reconnaissance
- 6. MCWP 3-17.5 Combined Arms Countermobility Operations

1371-DEMO-2501: Prepare demolition target folder

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**GRADES:** GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Provided DA Form 2203-R, blank target folder, photograph of target, maps of target area, drawing paper, pen or pencil, and the references.

STANDARD: To meet mission requirements in accordance with STANAG 2123 ENGR (EDITION 2) Obstacle Folder.

## PERFORMANCE STEPS:

- 1. Review DA Form 2203-R.
- 2. Complete required sections of the target folder in specific language(s).

#### **REFERENCES:**

- 1. MCRP 3-17.2D Explosive Hazard Operations
- 2. MCRP 3-17.7L Explosives and Demolitions
- 3. MCWP 3-17 Engineering Operations
- 4. STANAG 2123 Obstacle Folder

1371-EOPS-2501: Establish operations center

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**GRADES:** GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Given a tactical situation, unit SOP, required personnel, and mission essential equipment.

**STANDARD:** To obtain positive communication with subordinate/higher units, integrate systems (personnel and processes), and efficiently command and control engineer operations.

## PERFORMANCE STEPS:

- 1. Review the mission and commander's intent.
- 2. Select site.
- 3. Ensure set up of tent or shelter, if required.
- 4. Determine personnel requirements.
- 5. Establish Information Management plan within the operations center.
- 6. Coordinate for physical security.
- 7. Establish COC procedures.
- 8. Maintain Common Tactical Picture (CTP).

## REFERENCES:

- 1. MCWP 3-17 Engineering Operations
- 2. MCWP 3-40.1 MAGTF Command and Control

1371-EOPS-2502: Produce an engineer estimate

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**GRADES:** GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Given a supported unit's higher headquarters concept of operations (CONOPs), intelligence preparation of battlespace (IPB) products, organic engineer forces, as part of the supported unit's operational planning team (OPT) during the Marine Corps Planning Process (MCPP).

**STANDARD:** That identifies critical engineer tasks, task organization and command/support relationships.

## PERFORMANCE STEPS:

- 1. Analyze IPB products.
- 2. Incorporate doctrinal publications and resources into planning.
- 3. Template enemy engineer capabilities.
- 4. Integrate intelligence products into engineer battlespace assessment.
- 5. Understand supported unit commander's initial intent and guidance of the situation.
- 6. Analyze supported unit commander's concept of operations.
- 7. Estimate the total friendly engineer capability based on engineer planning.
- 8. Identify engineer mission shortfalls.
- 9. Request additional capabilities or capacities, if required.
- 10. Develop engineer tasks to support CONOPs.
- 11. Recommend task organization of engineer forces.
- 12. Plan sustainment for allocated engineer forces and equipment.

#### **REFERENCES:**

- 1. MCWP 3-17 Engineering Operations
- 2. MCWP 3-17.5 Combined Arms Obstacle Integration
- 3. MCWP 3-17.6 Survivability Operations
- 4. MCWP 3-17.8 Combined Arms Mobility Operations
- 5. MCWP 3-21.1 Aviation Ground Support
- 6. MCWP 5-1 Marine Corps Planning Process

1371-EOPS-2503: Analyze engineer form/report(s)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: SSGT, GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided completed engineer form/report(s) and references.

**STANDARD:** To determine relevant information, describe the impact on operations, and act on the information as required.

#### PERFORMANCE STEPS:

- Examine engineer form/report(s).
- 2. Determine impact on operations.
- 3. Prepare appropriate evaluation.
- 4. Report findings.

- 1. MCRP 3-17B Engineer Forms and Reports
- 2. MCWP 3-17 Engineering Operations

<u>1371-EOPS-2504</u>: Design concrete structures

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided specifications, writing/sketching materials, a calculator, and the reference.

<u>STANDARD</u>: To specify type of materials to be used, proper spacing of all components, and quantity and type of material required for finished structures capable of supporting all loads considered per the specifications.

#### PERFORMANCE STEPS:

- 1. Review the specifications.
- 2. Design a concrete footing.
- 3. Design a concrete wall.
- 4. Design a reinforced concrete structure.
- 5. Design a concrete block structure.
- 6. Generate a Bill of Materials.

#### REFERENCES:

1. MCRP 3-17.7D Concrete and Masonry

1371-EOPS-2505: Estimate equipment production rates

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: SSGT, GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a mission, specifications, calculator, writing materials, appropriate form(s), and references.

 $\underline{\mathtt{STANDARD}}\colon$  To determine resources, equipment, and production time to meet mission requirements.

## PERFORMANCE STEPS:

- 1. Review mission.
- 2. Determine equipment required.
- 3. Determine work rate.
- 4. Estimate production time required.
- Complete equipment worksheet(s).
- 6. Submit estimates to higher for incorporation into overall project timeline.

- 1. MCRP 3-17.7F Construction Project Management
- 2. MCRP 3-17.7I Earthmoving Operations
- 3. MCRP 3-17.7M Construction Estimating

1371-EOPS-2506: Establish project/operation schedules

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: SSGT, GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided a mission, construction drawings/blueprints, specifications, a calculator, writing materials, activity estimate sheets, and the references.

**STANDARD:** To detail all personnel, equipment, and materials necessary to accomplish the mission while establishing a defined duration for each subtask and the overall project/operation and graphically depict the schedule in accordance with MCRP 3-17.7F Construction Project Management.

## PERFORMANCE STEPS:

- 1. Review the mission.
- 2. Determine activities/tasks necessary to complete the project.
- 3. Arrange activities/tasks in logical sequence.
- 4. Complete activity estimate sheets.
- 5. Identify critical tasks.
- 6. Graphically depict schedule.
- 7. Update schedule throughout duration of project/operation.

#### REFERENCES:

- 1. MCRP 3-17.7F Construction Project Management
- 2. MCRP 3-17.7M Construction Estimating

<u>1371-EOPS-2507</u>: Coordinate joint/coalition support for engineer projects/operations

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**GRADES:** MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Provided an operations order and resources.

**STANDARD:** To provide all required support for a project or operation.

# PERFORMANCE STEPS:

- 1. Review the operations order.
- 2. Identify tasks/missions within capabilities.
- 3. Identify tasks/missions beyond organic capabilities.
- 4. Determine sources of support.
- 5. Submit requests for support, if required.

- 1. JP 3-34 Joint Engineer Operations
- 2. MCWP 3-17 Engineering Operations
- 3. MCWP 3-21.1 Aviation Ground Support
- 4. MCWP 3-40.1 MAGTF Command and Control

- 5. MCWP 4-1 Logistics Operations
- 6. MCWP 4-11.5 SeaBee Operations in the MAGTF

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Task can be completed by attending Joint Engineer Operations Course (JEOC) (CID: 4A-F16\030-F20)

1371-EOPS-2508: Plan a base camp

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

GRADES: SSGT, GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical situation, a map, an operations order, size and type of unit, and references.

**STANDARD:** To meet or exceed the unit's requirements and the commander's intent.

#### PERFORMANCE STEPS:

- 1. Analyze mission.
- 2. Identify Requests for Information (RFI).
- 3. Conduct reconnaissance.
- 4. Determine location.
- 5. Plan road network.
- 6. Select facilities required to support the base camp.
- 7. Determine utility requirements.
- 8. Determine fuel requirements.
- 9. Determine drainage requirements.
- 10. Develop obstacle/barrier plan as required.
- 11. Develop survivability plan as required.
- 12. Determine bill of materials (BOM).
- 13. Determine camp layout.
- 14. Determine task organization of personnel and equipment.
- 15. Determine logistical support requirements.
- 16. Establish a project schedule.
- 17. Illustrate final design.

- 1. GTA 90-01-011 Joint Forward Operations Base (JFOB) Protection Handbook
- 2. GTA 90-01-018 Joint Entry Control Point & Escalation of Force Procedures
- 3. MCRP 3-17.7N Base Camps
- 4. MCRP 4-11.1D Field Hygiene and Sanitation
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.5 Combined Arms Countermobility Operations
- 7. MCWP 3-17.6 Survivability Operations
- 8. MCWP 3-43 Command and Control
- 9. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 10. MCWP 4-25.5 Bulk Liquids Operations

1371-EOPS-2509: Plan Aviation Ground Support (AGS)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**GRADES:** GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an operation order and a requirement to support aviation operations.

 $\overline{\text{STANDARD}}$ : To provide services necessary to support Aviation Combat Element  $\overline{\text{(ACE)}}$  operations.

## PERFORMANCE STEPS:

- 1. Determine airbase support requirements.
- 2. Determine airfield support requirements.
- 3. Coordinate Base Recovery After Attack (BRAAT).
- 4. Plan for Airfield Damage Repair (ADR).
- 5. Plan for resource support for recovery of aircraft.
- 6. Coordinate with adjacent units to ensure availability of resources.

#### REFERENCES:

1. MCWP 3-21.1 Aviation Ground Support

1371-EOPS-2510: Participate in construction programs management

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**GRADES:** GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** As a member of a planning staff, given project requirements and references.

<u>STANDARD</u>: To ensure projects are prioritized, resources are allocated, and required documents are submitted in accordance with references, base master plan and/or commander's intent.

## PERFORMANCE STEPS:

- 1. Review subordinate unit request for new work, as required.
- 2. Evaluate projects submitted for troop training potential.
- 3. Consolidate projects for submission, if applicable.
- 4. Recommend priorities of project submission.
- 5. Submit required documentation for approval, if applicable.

- 1. Local MEF SOP
- 2. MCO P11000.5G Real Estate Properties
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.7 General Engineering

1371-HORZ-2501: Determine required concrete mixture

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**GRADES:** SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided construction drawings, blueprints, specifications, writing materials, a calculator, and the reference.

**STANDARD:** To achieve proper compressive strength per the specifications in accordance with MCRP 3-17.7D Concrete & Masonry.

## PERFORMANCE STEPS:

- 1. Determine the type of cement to be used.
- 2. Identify suitable water source.
- 3. Identify suitable aggregate.
- 4. Determine desired slump.
- 5. Determine percentage of air entrainment, as required.
- 6. Determine amount of water.
- 7. Determine a water/cement ratio.
- 8. Determine amount of cement.
- 9. Determine loose volume of gravel.
- 10. Convert weights to absolute volumes.
- 11. Determine weight of sand.
- 12. Determine loose volume of sand.
- 13. List final proportions for a one cubic yard batch.
- 14. Perform field moisture test on the aggregates.
- 15. Adjust mix design to account for aggregate moisture, as required.

## REFERENCES:

1. MCRP 3-17.7D Concrete and Masonry

1371-MANT-2501: Direct the maintenance management of the unit's assigned equipment

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

**STANDARD:** So equipment is repaired in a timely manner, enhancing unit readiness, and in accordance with maintenance management procedures.

- 1. Obtain current Maintenance Process Report (MPR).
- 2. Review references.
- 3. Review supporting documentation (equipment records).
- 4. Review MPR maintenance cycle times.

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- 5. Validate maintenance reports (per unit's SOP).
- 6. Identify exceptions in GCSS-MC.
- 7. Determine actions to correct exceptions, as required.

#### **REFERENCES:**

- 1. UNIT SOP Unit's Standing Operating Procedures
- 2. GCSS-MC Aid Global Combat Support System-Marine Corps Job Aid
- 3. GCSS-MC Guide Global Combat Support System-Marine Corps Guide
- 4. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 5. MCO 3000.11\_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
- 6. MCO 4400.16\_ Uniform Material Movement and Issue Priority System (UMMIPS)
- 7. TM 4700-15/1\_ Ground Equipment Record Procedures
- 8. UM 4400-124 Consumer Level Supply Policy Users Manual

#### SUPPORT REQUIREMENTS:

MATERIAL: Maintenance Process Reports (MPR)

1371-MOBL-2501: Determine military rafting requirements

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**GRADES:** SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided a mission specifying a military load class (MLC) requirement, completed engineer reconnaissance reports with hydrographic information, and references.

**STANDARD:** To meet mission requirements based on available resources to deliver the troops and equipment across the gap.

## PERFORMANCE STEPS:

- 1. Review the reconnaissance reports.
- 2. Identify personnel and equipment to cross.
- 3. Determine raft size based on MLC.
- 4. Determine rafting configuration based on current velocity.
- 5. Determine rafting cycle time.
- 6. Determine total force crossing time.
- 7. Determine logistical requirements.

# REFERENCES:

- 1. MCWP 3-17.4 Engineer Reconnaissance
- 2. MCWP 3-17.8 Combined Arms Mobility Operations
- 3. TM 10020C-OI Bridge Erection Boat (MKIII)Operator's Manual
- 4. TM 11518A-OR Improved Ribbon Bridge (IRB) Operators Manual

1371-MOBL-2502: Determine tactical bridging assets required to span a gap

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a mission specifying a military load class requirement, a map, reconnaissance report(s), and references.

**STANDARD:** To meet mission requirements based on available resources and to deliver troops and equipment across the gap.

#### PERFORMANCE STEPS:

- 1. Review the mission, reconnaissance reports, maps, and any other intelligence data available.
- 2. Evaluate potential crossing sites.
- 3. Select the best crossing means.
- 4. Select final bridge site.
- 5. Calculate required bridge length.
- 6. Fill out Pro Forma as necessary.
- 7. Determine bridging assets required, i.e., number of bays, number of boats, number of pallets.
- 8. Determine crew size.
- 9. Determine logistical support.
- 10. Calculate total time to construct the bridge.

#### **REFERENCES:**

- 1. MCWP 3-17.4 Engineer Reconnaissance
- 2. MCWP 3-17.8 Combined Arms Mobility Operations
- 3. TM 10020C-OI Bridge Erection Boat (MKIII) Operator's Manual
- 4. TM 11518A-OR Improved Ribbon Bridge (IRB) Operators Manual
- 5. TM 5-5420-212-12 Medium Girder Bridge
- 6. TM 5-5420-212-12-1 Link Reinforcement Set

1371-MOBL-2503: Plan engineer aspects of gap crossing operations

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: SSGT, GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Given a tactical situation, a map, Higher Headquarters operations order, supported commander's intent and planning guidance, completed engineer reconnaissance forms and references.

**STANDARD:** To ensure the crossing is supportable and consistent with the commander's intent, while accounting for all tactical control measures.

- 1. Analyze the mission.
- 2. Determine crossing means (type and amount of crossing assets required) based on gap characteristics, available crossing assets, and the size and type of units conducting the crossing.
- 3. Determine the focused type of crossing (deliberate, hasty, covert) based on commander's guidance and the projected operational picture.

- 4. Select crossing sites based on the scheme of movement and maneuver (to include the projected number and types of vehicles), the enemy disposition, terrain considerations, and the capabilities of available crossing assets.
- 5. Estimate crossing rates (force build up) based on the available crossing means and the number of crossing sites.
- 6. Establish crossing area control measures.
- 7. Coordinate with supported unit commanders.
- 8. Integrate crossing plan with supported unit's operation order.

- 1. MCRP 3-17B Engineer Forms and Reports
- 2. MCWP 3-17 Engineering Operations
- 3. MCWP 3-17.4 Engineer Reconnaissance
- 4. MCWP 3-17.8 Combined Arms Mobility Operations

1371-MOBL-2504: Design a non-standard bridge

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: SSGT, GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Given a requirement for non-standard gap crossing, completed engineer reconnaissance forms, a design military load class (MLC), the reference.

STANDARD: To meet or exceed required MLC.

## PERFORMANCE STEPS:

- 1. Review engineer reconnaissance reports.
- 2. Conduct site reconnaissance.
- 3. Determine the bridge type based on gap size and MLC.
- 4. Design the superstructure.
- 5. Design the substructure, if required.
- 6. Design the abutments, if required.
- 7. Calculate the bill of materials.
- 8. Determine logistical support requirements.
- 9. Illustrate final design.

#### REFERENCES:

1. MCRP 3-17.1B Military Non-Standard Fixed Bridging

1371-MOBL-2505: Plan breaching of complex obstacles

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**GRADES:** SSGT, GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Given a tactical situation, Higher Headquarters operations order, supported commander's intent and planning guidance, a map, current obstacle intelligence, and references.

**STANDARD:** To ensure the breach is supportable and consistent with the commander's intent, while accounting for all tactical control measures.

## PERFORMANCE STEPS:

- 1. Analyze the mission.
- 2. Identify available reduction assets.
- 3. Template enemy obstacles.
- 4. Understand supported unit's scheme of maneuver (SOM).
- 5. Identify the number of required breach lanes.
- 6. Identify assets required to reduce, proof, and mark lanes.
- 7. Task organize assets within the breach force.
- 8. Assist in developing the appendix for the operation order.

#### **REFERENCES:**

- 1. MCRP 2-3A Intelligence Preparation of the Battlefield/Battlespace
- 2. MCWP 3-1 Ground Combat Operations
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.4 Engineer Reconnaissance
- 5. MCWP 3-17.8 Combined Arms Mobility Operations

1371-MOBL-2506: Plan clearing operations

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

GRADES: GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Given a tactical situation with an explosive hazard threat, a Higher Headquarters operations order, supported commander's intent and planning quidance, a map, specified route/area, and references.

**STANDARD:** To ensure clearance plan is supportable and consistent with the commander's intent.

#### PERFORMANCE STEPS:

- 1. Review mission.
- 2. Review IPB.
- 3. Develop CONOPS.
- 4. Conduct coordination with higher/adjacent.
- 5. Request EOD support, if required.
- 6. Task organize personnel.
- 7. Task organize equipment.
- 8. Prepare appendix to the operations order.

- 1. MCRP 3-17.2D Explosive Hazard Operations
- 2. MCRP 3-17.7L Explosives and Demolitions
- 3. MCWP 3-17 Engineering Operations
- 4. MCWP 3-17.8 Combined Arms Mobility Operations

1371-MOBL-2507: Lead clearing operations

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 3 months

GRADES: CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical situation with an explosive hazard threat, a route/area to be cleared, clearance equipment, a map, and operation order.

STANDARD: To provide mobility to the supported unit.

## PERFORMANCE STEPS:

- 1. Analyze mission.
- 2. Task organize personnel and equipment.
- 3. Issue the order.
- 4. Conduct rehearsals.
- 5. Ensure all obstacles are detected, identified, and marked.
- 6. Reduce or by-pass obstacles based on commander's priority.
- 7. Submit required reports.

#### REFERENCES:

- 1. Appropriate Equipment Manual
- 2. MCRP 3-17.2D Explosive Hazard Operations
- 3. MCRP 3-17.7L Explosives and Demolitions
- 4. MCRP 3-17B Engineer Forms and Reports
- 5. MCWP 3-17 Engineering Operations
- 6. MCWP 3-17.8 Combined Arms Mobility Operations

## SUPPORT REQUIREMENTS:

#### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17420 Maneuver/Training Area, Heavy Forces

EQUIPMENT: Handheld detection equipment, R2C equipment, robots, PPE

1371-MOBL-2508: Plan military road construction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a tactical situation, a map, an operations order, equipment and personnel, and references.

**STANDARD:** To meet or exceed mobility requirements.

- 1. Analyze mission requirements.
- 2. Determine design life of road.

- 3. Determine number and type of vehicles that will use the road during its design life.
- 4. Conduct reconnaissance of proposed road.
- 5. Recommend site selection.
- 6. Design the subgrade (if required).
- 7. Design the base (if required).
- 8. Design the wearing surface (if required).
- 9. Determine compaction requirements for each layer.
- 10. Review final design.
- 11. Determine logistical requirements to support construction.
- 12. Determine task organization of personnel and equipment.
- 13. Recommend road design and requirements to commander.

- 1. MCRP 3-17.7A Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations Road Design
- 2. MCRP 3-17.7G Military Soils Engineering
- 3. MCRP 3-17.7H Materials Testing
- 4. MCRP 3-17A Engineering Field Data
- 5. MCWP 3-17 Engineering Operations

1371-SURV-2501: Prepare a survivability plan

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: SSGT, GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Given a tactical situation, supported commander's intent and planning guidance, intelligence reports, a map, Higher Headquarters operation order, and references.

**STANDARD:** To provide a level of force protection commensurate with enemy threat capabilities and the commander's intent.

#### PERFORMANCE STEPS:

- 1. Analyze the mission.
- 2. Conduct Intelligence Preparation of the Battlespace (IPB).
- 3. Identify Requests for Information (RFI).
- 4. Identify location(s) of survivability positions.
- 5. Identify survivability requirements.
- 6. Prioritize survivability requirements.
- 7. Plan for protective obstacle integration.
- 8. Task organize engineer equipment and personnel.
- 9. Plan inspections of survivability positions for proper construction techniques.
- 10. Prepare appendix to the operation order.

- 1. GTA 90-01-011 Joint Forward Operations Base (JFOB) Protection Handbook
- 2. GTA 90-01-018 Joint Entry Control Point & Escalation of Force Procedures
- 3. MCRP 3-17A Engineering Field Data
- 4. MCWP 3-1 Ground Combat Operations
- 5. MCWP 3-17 Engineering Operations

# 6. MCWP 3-17.6 Survivability Operations

1371-VERT-2501: Plan wood frame structure

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 6 months

**GRADES:** SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided specifications, writing/sketching materials, a calculator, and references.

<u>STANDARD</u>: To specify type of materials to be used, proper spacing of all components, and quantity and type of material required for finished structures capable of supporting all loads considered per the specifications.

## PERFORMANCE STEPS:

- 1. Review mission.
- 2. Conduct site survey.
- 3. Identify requirements.
- 4. Select standard designs/drawings (if required).
- 5. Design structure (if required).
- 6. Identify Requests for Information (RFI).
- 7. Develop material take off sheet.
- 8. Prepare Bill of Materials.
- 9. Task organize equipment and personnel.
- 10. Develop Quality Control (QC) plan.
- 11. Submit required documents.

- 1. MCRP 3-17.7C Carpentry
- 2. MCRP 3-17.7M Construction Estimating
- 3. ModCarp 2008 Modern Carpentry 11 Edition Wagner/Smith
- 4. NAVEDTRA 14043A Builder Basic, Part 1
- 5. NAVEDTRA 14045A Builder Advanced, Part 1&2

# ENG & UTIL T&R MANUAL

# CHAPTER 22

# MOS 1372 INDIVIDUAL EVENTS

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## ENG & UTIL T&R MANUAL

#### CHAPTER 22

## MOS 1372 INDIVIDUAL EVENTS

**22000. PURPOSE.** This chapter details the individual events that pertain to the Assault Breacher Vehicle Crewman. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful.

**22001. EVENT CODING.** Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX. This chapter utilizes the following methodology:

a. Field one. This field represents the community. This chapter contains the following community codes:

b. Field two. This field represents the functional/duty area. This chapter contains the following functional/duty areas:

| <u>Code</u> <u>Description</u> |   |
|--------------------------------|---|
| ADMN Administration            | n |
| DEMO Demolitions               |   |
| MANT Maintenance               |   |
| MAR March                      |   |
| MOBL Mobility                  |   |

c. Field three. This field provides the level at which the event is accomplished and numerical sequencing of events. This chapter contains the following event levels:

Code
1000 Description
Core Skills

## 22002. INDEX OF INDIVIDUAL EVENTS

| EVENT CODE        | EVENT                                              | PAGE |  |  |
|-------------------|----------------------------------------------------|------|--|--|
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| 1372-ADMN-1002    | Maintain Ordnance Vehicle Logbook for the ABV/AVLB | 22-4 |  |  |
| 1372-ADMN-1003    | Communicate using ABV/AVLB communication equipment | 22-4 |  |  |
| 1372-DEMO-1001    | Operate ABV Linear Demolition Charge System (LDCS) | 22-5 |  |  |
| 1372-DEMO-1002    | Mark breach lane using ABV Lane Marking System     | 22-6 |  |  |

|                   | (LMS)                                            |       |  |
|-------------------|--------------------------------------------------|-------|--|
| 1372-MANT-1001    | Perform ABV/AVLB Operator Preventive Maintenance | 22-6  |  |
|                   | Checks and Services (PMCS)                       |       |  |
| 1372-MANT-1002    | Conduct recovery operations for the ABV/ALVB     | 22-7  |  |
| 1372-MANT-1003    | Perform track maintenance on the ABV/AVLB        | 22-7  |  |
| 1372-MANT-1004    | Adjust Track Tension on M-60 AVLB                | 22-8  |  |
| 1372-MANT-1005    | Slave Start a M-60 AVLB                          | 22-9  |  |
| 1372-MANT-1006    | Prepare a M-60 AVLB Bridge for Removal by        | 22-9  |  |
|                   | Overhead Lift                                    |       |  |
| 1372-MANT-1007    | Perform Hydraulic Slaving Operations             | 22-10 |  |
| 1372-MOBL-1001    | Operate commander's station on ABV               | 22-10 |  |
| 1372-MOBL-1002    | Operate ABV Driver's Station                     | 22-11 |  |
| 1372-MOBL-1003    | Navigate ABV using the Defense Advanced GPS      | 22-11 |  |
|                   | Receiver (DAGR)                                  |       |  |
| 1372-MOBL-1004    | Operate NBC System on ABV                        | 22-12 |  |
| 1372-MOBL-1005    | Drive the ABV/AVLB                               | 22-13 |  |
| 1372-MOBL-1006    | Employ ABV/AVLB Terrain Driving Techniques       | 22-13 |  |
| 1372-MOBL-1007    | Operate ABV Front End Equipment                  | 22-14 |  |
| 1372-MOBL-1008    | Execute ABV emergency procedures                 | 22-14 |  |
| 1372-MOBL-1009    | Operate Vision systems for ABV/AVLB              | 22-15 |  |
| 1372-MOBL-1010    | Operate M48 .50 cal heavy machinegun on the ABV  | 22-16 |  |
| 1372-MOBL-1011    | Operate M240 machinegun on the ABV               | 22-16 |  |
| 1372-MOBL-1012    | Operate M257 grenade launcher system on the ABV  | 22-17 |  |
| 1372-MOBL-1013    | Navigate the AVLB                                | 22-18 |  |
| 1372-MOBL-1014    | Select a Launch Site                             | 22-18 |  |
| 1372-MOBL-1015    | Launch the Bridge Across a Gap                   | 22-19 |  |
| 1372-MOBL-1016    | Disconnect a Launched Bridge from the Launcher   | 22-19 |  |
| 1372-MOBL-1017    | Reconnect a Launched Bridge to the Launcher      | 22-20 |  |
| 1372-MOBL-1018    | Retrieve the Bridge onto the Launcher            | 22-20 |  |
| 2000-LEVEL EVENTS |                                                  |       |  |
| 1372-MAR-2001     | March with a fighting load                       | 22-21 |  |

## 22003. 1000-LEVEL EVENTS

 $\underline{\textbf{1372-ADMN-1001}} : \quad \text{Communicate using visual signals for the ABV/AVLB}$ 

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

 $\underline{\text{CONDITION}}\colon$  Given an ABV section, SL-3 equipment, chemical lights or flashlights.

**STANDARD:** Safely moving an ABV/AVLB or displaying its weapons status in accordance with FM 21-60 Visual Signals.

- 1. Control vehicles using hand and arm signals.
- 2. Control vehicles using flashlights/chemical lights.
- 3. Display weapons status using flags.

- 1. FM 21-60 Visual Signals
- 2. TM 10984A-OR/1-1 Operators Manual, (ABV) Volume 1
- 3. TM 5-5420-202-10 Operator's Manual for M-60 AVLB

## SUPPORT REQUIREMENTS:

MATERIAL: Chemlights and Flashlights

1372-ADMN-1002: Maintain Ordnance Vehicle Logbook for the ABV/AVLB

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an ABV/AVLB, an Ordnance Vehicle Logbook, and the references.

**STANDARD:** Ensuring proper documentation of the vehicle records per MCO P4790.2 MIMMS Field Procedures Manual.

#### PERFORMANCE STEPS:

- 1. Inventory logbook to ensure that it is complete.
- Verify that the inspector block has been properly signed on NAVMC 10392, Ordnance Vehicle Military Acceptance Record.
- 3. Ensure that NAVMC 10393, Ordnance Vehicle Daily Log contains appropriate entries and signatures.
- 4. Ensure that NAVMC 10394, Ordnance Vehicle Monthly Log contains appropriate entries and signatures.
- 5. Ensure that NAVMC 10398, Ordnance Vehicle Service Record contains appropriate entries and signatures.
- 6. Ensure that NAVMC 10401, Ordnance Vehicle Overhaul and Rebuild Record contain appropriate entries and signatures.

# REFERENCES:

- 1. MCO P4790.2 MIMMS Field Procedures Manual
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

1372-ADMN-1003: Communicate using ABV/AVLB communication equipment

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an ABV/AVLB, internal/external communications equipment and the references.

**STANDARD:** Ensuring all equipment is operable, ABV/AVLB crew can communicate internally and vehicle can communicate with other vehicles in the obstacle clearing detachment.

# PERFORMANCE STEPS:

- 1. Install communications equipment, as required.
- 2. Prepare communications equipment for operation.
- 3. Operate Combat Vehicle Crewman (CVC) helmet.
- 4. Operate vehicle intercom system.
- 5. Operate the receiver/transmitters.
- 6. Operate communications equipment using proper radio procedures.
- 7. Secure communications equipment from operation.

#### **REFERENCES:**

- PN 1015-0109-4100 HARRIS AN/PRC-117(V)(\_) Manpack Radio Operation Manual
- 2. TM 10984A-OR/1-1 Operators Manual, (ABV) Volume 1
- 3. TM 5-5420-202-10 Operator's Manual for M-60 AVLB

1372-DEMO-1001: Operate ABV Linear Demolition Charge System (LDCS)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given an ABV with attached LDCS and the references.

**STANDARD:** Reducing obstacles in support of the commander's scheme of maneuver.

## PERFORMANCE STEPS:

- 1. Install the LDCS.
- 2. Conduct system test procedures for the LDCS.
- 3. Conduct pre-fire procedures for the LDCS.
- 4. Fire the LDCS.
- 5. Conduct jettison procedures for the LDCS (EMERGENCY ONLY).

## **REFERENCES:**

- 1. FM 3-34.210 Explosive Hazard Operations
- 2. TM 08982A-14&P/2B Operator's Manual for MK 155 Mine Clearance System
- 3. TM 10984A-OR/1-1 Operators Manual, (ABV) Volume 1
- 4. TM 10984A-OR/1-2 Operators Manual, (ABV) Volume 2

# SUPPORT REQUIREMENTS:

## ORDNANCE:

| DODIC                                     | Quantity |   |
|-------------------------------------------|----------|---|
| J143 Rocket Motor, 5-inch MK22 Mod 4      | Initial: | 2 |
| M913 Charge, Demolition High Explosive Li | Initial: | 2 |
| M914 Charge, Demolition Inert Linear M68A | Initial: | 2 |

RANGE/TRAINING AREA: Facility Code 17830 Light Demolition Range

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**EQUIPMENT:** Kevlar helmet, flak vest, hearing protection, demolition kit, AN/PRC 119, firing device (M34, MK152 Remote Firing Device, CD450-4J Blasting Machine).

UNITS/PERSONNEL: Range Safety Officer, Corpsman

1372-DEMO-1002: Mark breach lane using ABV Lane Marking System (LMS)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an ABV with LMS, a breached obstacle with mines, and the references.

STANDARD: Delineating the breach lane for the assault element per unit SOP.

#### PERFORMANCE STEPS:

- 1. Prepare LMS for operation.
- 2. Operate LMS.
- 3. Secure LMS.
- 4. Perform Preventive Maintenance Checks and Services (PMCS) on LMS.

#### **REFERENCES:**

- 1. MCO 3500.27\_ Operational Risk Management (ORM)
- 2. MCWP 3-17.3 MAGTF Breaching Operations
- 3. TM 10984A-OR/1-1 Operators Manual, (ABV) Volume 1
- 4. TM 10984A-OR/1-2 Operators Manual, (ABV) Volume 2

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: All LMS arrows must be recovered to be used again in a training atmosphere.

1372-MANT-1001: Perform ABV/AVLB Operator Preventive Maintenance Checks and Services (PMCS)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given an ABV/AVLB, SL-3 equipment, tools, and technical manuals.

**STANDARD:** Ensuring equipment is checked and serviced per the maintenance schedule, and deficiencies are identified/corrected.

- 1. Locate appropriate maintenance instructions in TM or LO, as required.
- 2. Follow instructions in TM or LO to perform preventive maintenance checks

- and services or lubrication, as required.
- 3. Identify any maintenance deficiencies.
- 4. Correct maintenance deficiencies if within authorized maintenance level.
- 5. Report any deficiencies that cannot be corrected to operator/crew Level of Maintenance (LOM).

- 1. LO 5-5420-202-12 Lubrication Order for AVLB
- 2. MCO 3500.27\_ Operational Risk Management (ORM)
- 3. TM 10984A-OR/1-1 Operators Manual, (ABV) Volume 1
- 4. TM 10984A-OR/1-2 Operators Manual, (ABV) Volume 2
- 5. TM 5-5420-202-10 Operator's Manual for M-60 AVLB

#### MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: 1. This event is a MOS Specific Physical Standard required for the MOS of 1372. See Appendix D for further detail.

1372-MANT-1002: Conduct recovery operations for the ABV/AVLB

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a disabled ABV/AVLB, SL-3 equipment, and the references.

**STANDARD:** Ensuring the ABV/AVLB is no longer mired, is rigged for towing, or a stalled ABV/AVLB is started.

## PERFORMANCE STEPS:

- 1. Locate the disabled vehicle.
- 2. Establish security.
- 3. Conduct estimate of the situation to determine; situation of the vehicle (mired, disabled, overturned); the condition of the vehicle (can operate once recovered, can be repaired on site, must be towed to collection point); and most appropriate recovery method (self, like, other).
- 4. Prepare the disabled vehicle for recovery (self, like or other).
- 5. Conduct recovery (self, like or other).
- 6. Conduct operator repairs as appropriate.
- 7. Rig vehicle for towing to collection point if repairs can return the vehicle to operational status.

## **REFERENCES:**

- 1. FM 21-60 Visual Signals
- 2. MCO 3500.27 Operational Risk Management (ORM)
- 3. TM 10984A-OR/1-1 Operators Manual, (ABV) Volume 1
- 4. TM 10984A-OR/1-2 Operators Manual, (ABV) Volume 2
- 5. TM 5-5420-202-10 Operator's Manual for M-60 AVLB

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: 1. This event is a MOS Specific Physical Standard required for the MOS of 1372. See Appendix D for further detail.

1372-MANT-1003: Perform track maintenance on the ABV/AVLB

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Given an ABV/AVLB with unserviceable track or thrown track, SL-3 equipment, replacement parts, and the references.

**STANDARD:** Ensuring track is repaired, track tension is correctly adjusted, and all safety precautions are observed to maintain equipment in a mission capable status.

#### PERFORMANCE STEPS:

- 1. Disconnect track, as required.
- 2. Replace unserviceable track shoe, as required.
- 3. Install track, as required.
- 4. Replace track pad, as required.
- 5. Adjust track tension, as required.
- 6. Replace road wheel, as required.
- 7. Complete maintenance/administrative records and procedures.

## **REFERENCES:**

- 1. MCO 3500.27\_ Operational Risk Management (ORM)
- 2. TM 10984A-OR/1-1 Operators Manual, (ABV) Volume 1
- 3. TM 10984A-OR/1-2 Operators Manual, (ABV) Volume 2
- 4. TM 5-5420-202-10 Operator's Manual for M-60 AVLB

1372-MANT-1004: Adjust Track Tension on M-60 AVLB

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an AVLB parked on level ground, crew, SL-3, weights, a ten foot long string strong enough to hold weights, a ruler, and the references.

**STANDARD:** So that space between the string and end connector measures between 7/16 inch and 1/2 inch (12.7) while the engine is running.

- 1. Move vehicle rearward at least two tank lengths, then move vehicle forward and allow vehicle to coast to a stop without applying brakes.
- 2. Set shift lever to park (P) and shut off engine.
- 3. Remove dirt and mud from end connectors to near first and second support

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rollers

- 4. Tie weights to each end of string and place string over center of end connectors.
- 5. Find center for string and mark nearest end connector.
- 6. Using ruler, measure distance between string and marked end connector.
- 7. Remove dirt and mud from locking screw and adjusting link.
- 8. Remove locking screw and lock washer.
- 9. Loosen or tighten track tension, as required by turning adjusting link.
- 10. Repeat steps 6 through 9, as necessary.
- 11. Install and tighten lock washer and screw.
- 12. Lubricate adjusting link.

#### **REFERENCES:**

- 1. MCO 3500.27\_ Operational Risk Management (ORM)
- 2. TM 5-5420-202-10 Operator's Manual for M-60 AVLB

1372-MANT-1005: Slave Start a M-60 AVLB

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Given an AVLB with dead batteries, crew, NATO slave cable, available operational tank or recovery vehicle, and the references.

**STANDARD:** Ensuring the discharged vehicle is running without damage to equipment or personnel.

## PERFORMANCE STEPS:

- 1. Position live vehicle along dead vehicle.
- 2. Set parking brakes on vehicles.
- 3. Ensure all electronic equipment is off.
- 4. Set MASTER BATTERY switch to OFF on disabled vehicle.
- 5. Inspect live vehicle battery charge.
- 6. Set live vehicle idle speed to 700-750 RPM.
- 7. Set live vehicle MASTER BATTERY switch to OFF.
- 8. Connect NATO slave cable between vehicles.
- 9. Charge dead vehicle batteries.
- 10. Attempt to start disabled vehicle.
- 11. Disconnect NATO slave cable.

#### REFERENCES:

- 1. MCO 3500.27\_ Operational Risk Management (ORM)
- 2. TM 5-5420-202-10 Operator's Manual for M-60 AVLB

1372-MANT-1006: Prepare a M-60 AVLB Bridge for Removal by Overhead Lift

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

## INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an AVLB, crew, SL-3, a crane or unit's organic equipment, and the references.

STANDARD: Without damage to equipment or injury to personnel.

## PERFORMANCE STEPS:

- 1. Release hold down cylinder.
- 2. Release locking pins.
- 3. Sling bridge.
- 4. Lift bridge using crane, if available.
- 5. If crane lift is not available, use two M88A2 recovery vehicles to lift bridge.

## **REFERENCES:**

- 1. MCO 3500.27\_ Operational Risk Management (ORM)
- 2. TM 5-5420-202-10 Operator's Manual for M-60 AVLB

1372-MANT-1007: Perform Hydraulic Slaving Operations

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a serviceable AVLB, nonfunctional AVLB with bridge, crew, SL-3 and the references.

**STANDARD:** To remove the bridge from a nonfunctional launcher without damage to equipment and injury to personnel.

## PERFORMANCE STEPS:

- 1. Position live vehicle along nonfunctional vehicle.
- 2. Prepare vehicles for hydraulic slaving hookup.
- 3. Connect hydraulic slaving hoses to vehicles.
- 4. Hydraulically slave bridge.
- 5. Disconnect slave hoses.

#### **REFERENCES:**

- 1. MCO 3500.27\_ Operational Risk Management (ORM)
- 2. TM 5-5420-202-10 Operator's Manual for M-60 AVLB

**1372-MOBL-1001**: Operate commander's station on ABV

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given an ABV, SL-3 equipment, and the references.

<u>STANDARD</u>: Ensuring all associated vehicle commander equipment is functional and the vehicle is prepared for operation.

#### PERFORMANCE STEPS:

- 1. Open commander's hatch.
- 2. Adjust commander's seat and platforms.
- 3. Power up UTCP, intercom, radio, DAGR, IVS (ABV).
- 4. Power down commander's station.

#### REFERENCES:

- 1. TM 10984A-OR/1-1 Operators Manual, (ABV) Volume 1
- 2. TM 10984A-OR/1-2 Operators Manual, (ABV) Volume 2

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: 1. This event is a MOS Specific Physical Standard required for the MOS of 1372. See Appendix D for further detail.

1372-MOBL-1002: Operate ABV Driver's Station

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given an ABV, SL-3 equipment and the references.

**STANDARD:** Ensuring all associated driver station equipment is functional and the vehicle is prepared for operation.

## PERFORMANCE STEPS:

- 1. Enter the driver's station.
- 2. Power up hull systems.
- 3. Operate dome light.
- 4. Operate intercom check.
- 5. Adjust seat.
- 6. Adjust periscopes.
- 7. Adjust hatch.
- 8. Adjust steer-throttle control.
- 9. Operate drain valve.
- 10. Check percent of power or mission capability power.
- 11. Shut down engine.
- 12. Power down hull systems.
- 13. Close driver's hatch.

- 1. TM 10984A-OR/1-1 Operators Manual, (ABV) Volume 1
- 2. TM 10984A-OR/1-2 Operators Manual, (ABV) Volume 2

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: 1. This event is a MOS Specific Physical Standard required for the MOS of 1372. See Appendix D for further detail.

1372-MOBL-1003: Navigate ABV using the Defense Advanced GPS Receiver (DAGR)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an ABV with crew, an operational area, a military map of the operational area, DAGR, known start point, destination, and the references.

STANDARD: Navigating the vehicle within 10 meters of the given point.

## PERFORMANCE STEPS:

- 1. Install DAGR.
- 2. Turn on the DAGR.
- 3. Plan a route using way points.
- 4. Navigate ABV along planned route.
- 5. Clear way points at final destination.

#### **REFERENCES:**

- 1. TM 10984A-OR/1-1 Operators Manual, (ABV) Volume 1
- 2. TM 10984A-OR/1-2 Operators Manual, (ABV) Volume 2
- 3. TM 11-5820-1172-13 Operator and Maintenance Manual, Defense Advanced GPS Receiver (DAGR) Satellite Signals Navigation Set AN/PSN-13

1372-MOBL-1004: Operate NBC System on ABV

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an ABV, a field protective mask, tactical scenario involving an NBC threat, and the references.

<u>STANDARD</u>: To offer maximum protection for the crew, the mission is continued, communications are reestablished, and the system remains fully operational.

- 1. Turn on NBC main system.
- 2. Initiate NBC back-up system (Fresh air), is necessary.
- 3. Conduct NBC back-up filter change criteria, as required.
- 4. Don M42A1 Protective Mask, as required.

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- 5. Operate ABC-M11 Decontaminating Apparatus, as required.
- 6. Operate the M88 Chemical detector, as required.
- 7. Operate Radiac, as required.
- 8. Decontaminate the ABV, as required.

#### **REFERENCES:**

- 1. MCO 3500.27\_ Operational Risk Management (ORM)
- 2. TM 10984A-OR/1-1 Operators Manual, (ABV) Volume 1
- 3. TM 10984A-OR/1-2 Operators Manual, (ABV) Volume 2

1372-MOBL-1005: Drive the ABV/AVLB

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Without the aid of references, given an ABV/AVLB with crew, varied terrain, various environmental conditions, and obstacles (natural and man-made).

**STANDARD:** Without injury to crew, damage to the vehicle, without losing control of the vehicle at any time while continuously observing the forward terrain.

#### PERFORMANCE STEPS:

- 1. Start the vehicle.
- 2. Operate the driver controls.
- 3. Move the vehicle.
- 4. Drive up and down hills, as required.
- 5. Drive over obstacles, as required.
- 6. Drive across ditches, as required.
- 7. Ford shallow water obstacles as required.
- 8. Ford deep water obstacles as required.
- 9. Conduct night driving with and without exterior lights/infrared lens and with and without night vision devices, as required.
- 10. Refuel vehicle.

## **REFERENCES:**

- 1. MCO 3500.27\_ Operational Risk Management (ORM)
- 2. TM 10984A-OR/1-1 Operators Manual, (ABV) Volume 1
- 3. TM 10984A-OR/1-2 Operators Manual, (ABV) Volume 2
- 4. TM 5-5420-202-10 Operator's Manual for M-60 AVLB

1372-MOBL-1006: Employ ABV/AVLB Terrain Driving Techniques

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

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**CONDITION:** Given an ABV/AVLB with a crew, in an operational environment, and the references.

**STANDARD:** While maintaining tactical control, avoiding explosive hazards, and accomplishing mission requirements in accordance with the commander's intent.

#### PERFORMANCE STEPS:

- 1. Use cover and concealed routes.
- 2. Minimize dust signature.
- 3. Maintain interval between vehicles.
- 4. Avoid silhouetting the vehicle, when practical.
- 5. Scan the ground for disturbed earth or out-of-place features that may indicate explosive hazards.
- 6. Select appropriate formation and movement technique.

## **REFERENCES:**

- 1. TM 10984A-OR/1-1 Operators Manual, (ABV) Volume 1
- 2. TM 10984A-OR/1-2 Operators Manual, (ABV) Volume 2
- 3. TM 5-5420-202-10 Operator's Manual for M-60 AVLB

1372-MOBL-1007: Operate ABV Front End Equipment

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an ABV with front end equipment, SL-3 equipment, and the references.

**STANDARD:** Reducing obstacles and proofing initial lanes in support of the commander's scheme of maneuver and intent.

# PERFORMANCE STEPS:

- 1. Employ the High Lift Adapter (HLA), as required.
- 2. Employ the Full Width Mine Plow (FWMP), as required.
- 3. Employ the Surface Mine Plow (SMP), as required.
- 4. Employ the Rapid Ordnance Removal System (RORS), as required.
- 5. Employ the Combat Dozer Blade (CDB), as required.

#### REFERENCES:

- 1. FM 3-34.210 Explosive Hazard Operations
- 2. TM 10984A-OR/1-1 Operators Manual, (ABV) Volume 1
- 3. TM 10984A-OR/1-2 Operators Manual, (ABV) Volume 2

1372-MOBL-1008: Execute ABV emergency procedures

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an ABV with a crew, set for normal mode of operation, SL-3 equipment, and technical manuals.

**STANDARD:** To continue performing mission and prevent loss of life, in accordance with TM 1098A/OR-1.

#### PERFORMANCE STEPS:

- 1. Perform immediate action for engine's failure to shut down, as required.
- 2. Unlock stuck parking brake, as required.
- 3. Perform immediate action for starter failure to disengage, as required.
- 4. Bypass primary fuel filters, as required.
- Perform immediate action for vehicle master power failure to power down, as required.
- 6. Disconnect fuel quick-disconnect coupling, as required.
- 7. Perform emergency crew evacuation procedures, as required.
- 8. Execute an emergency stop, as required.
- 9. Perform immediate action for an engine compartment fire, as required.
- 10. Perform immediate action for loss of engine power, as required.
- 11. Perform immediate action for loss of steering, as required.
- 12. Perform immediate action for loss of service brakes, as required.
- 13. Remove injured crew member from vehicle, as required.

#### REFERENCES:

- 1. MCO 3500.27\_ Operational Risk Management (ORM)
- 2. TM 10984A-OR/1-1 Operators Manual, (ABV) Volume 1
- 3. TM 10984A-OR/1-2 Operators Manual, (ABV) Volume 2

## MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: This task will be downgraded at the Formal Learning Center (FLC). This event is a MOS Specific Physical Standard required for the MOS of 1372. See Appendix E for further detail.

1372-MOBL-1009: Operate Vision systems for ABV/AVLB

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** In an operational environment, while operating the ABV/AVLB, given SL-3 equipment and the references.

**STANDARD:** In order to accomplish the mission in accordance with the commander's intent.

# PERFORMANCE STEPS:

1. Install the DVE.

- 2. Connect power cable, as required
- 3. Set DVE switch to on.
- 4. Perform function checks on vision systems.
- 5. Employ the DVE.
- 6. Operate IVS, as required.
- 7. Disconnect power cable, as required.
- 8. Remove the DVE.

- 1. TM 10984A-OR/1-1 Operators Manual, (ABV) Volume 1
- 2. TM 10984A-OR/1-2 Operators Manual, (ABV) Volume 2
- 3. TM 5-5420-202-10 Operator's Manual for M-60 AVLB

1372-MOBL-1010: Operate M48 .50 cal heavy machinegun on the ABV

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an ABV with M48 .50 cal heavy machinegun, ammunition, cleaning equipment, firing range, targets, during day and night conditions and the references.

**STANDARD:** Accurately engage targets.

## PERFORMANCE STEPS:

- 1. Determine range using Laser Range Finder.
- 2. Prepare commander's weapon station.
- 3. Install weapons systems.
- 4. Assemble the M48 .50 cal heavy machinegun.
- 5. Set Headspace and Timing.
- 6. Bore sight CPS.
- 7. Operate Commander's Primary Sight (CPS).
- 8. Bore sight thermal sight.
- 9. Operate the Thermal Weapon Sight.
- 10. Load the ABV weapons systems.
- 11. Engage targets with M48 .50 caliber HB Machinegun.
- 12. Perform immediate actions for the weapon system.
- 13. Perform Preventive Maintenance Checks and Services (PMCS) on the weapon system.

#### REFERENCES:

- 1. FM 3-20.12 Tank Gunnery
- 2. MCO 3500.27\_ Operational Risk Management (ORM)
- 3. MCWP 3-15.1 Machine Guns and Machine Gun Gunnery
- 4. TM 11-5855-312-10 PAS-13B
- 5. TM 9-1005-213-10 Operator's Manual Machine Gun, Cal .50

## SUPPORT REQUIREMENTS:

## ORDNANCE:

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DODIC
A518 Cartridge, Caliber .50 4 SLAP M903/1
A576 Cartridge, Caliber .50 4 API M8/1 AP
Initial: 600

## RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17580 Machine Gun Transition Range

1372-MOBL-1011: Operate M240 machinegun on the ABV

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Given an ABV with M240\_ machinegun, ammunition, references, cleaning equipment, firing range, targets, during day and night conditions, and the references.

STANDARD: Accurately engage targets.

#### PERFORMANCE STEPS:

- 1. Install M240\_ machinegun.
- 2. Load machinegun.
- 3. Engage targets with M240\_ machinegun.
- 4. Perform immediate actions.
- 5. Perform Preventive Maintenance Checks and Services (PMCS) on machinegun.
- 6. Remove machinegun.

## **REFERENCES:**

- 1. MCO 3500.27\_ Operational Risk Management (ORM)
- 2. MCWP 3-15.1 Machine Guns and Machine Gun Gunnery
- 3. TM 9-1005-313-23&P Machinegun 7.62mm M240 Series

## SUPPORT REQUIREMENTS:

# ORDNANCE:

DODIC Al31 Cartridge, 7.62mm 4 Ball M80/1 Trace Quantity Initial: 740

#### RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces Facility Code 17580 Machine Gun Transition Range

1372-MOBL-1012: Operate M257 grenade launcher system on the ABV

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

<u>CONDITION</u>: Given an ABV with a M257 grenade launcher system, ammunition, cleaning equipment, firing range, and targets, during day and night conditions, and the references.

**STANDARD:** In order to screen the ABVs movement to the greatest extent possible.

#### PERFORMANCE STEPS:

- 1. Orient the turret in the direction where smoke is needed.
- 2. Announce "grenade launcher".
- 3. The crew secures all hatches.
- 4. Turn the weapon power circuit breaker on.
- 5. Turn the grenade launcher switch(s) on.
- 6. Announce "fire".
- 7. Fire the grenade launcher(s).
- 8. Announce "grenades launched".
- 9. Perform immediate actions on M257 Grenade Launcher System.

#### **REFERENCES:**

- 1. MCO 3500.27\_ Operational Risk Management (ORM)
- 2. TM 10984A-OR/1-1 Operators Manual, (ABV) Volume 1
- 3. TM 10984A-OR/1-2 Operators Manual, (ABV) Volume 2

## SUPPORT REQUIREMENTS:

# **ORDNANCE:**

DODIC
G826 Grenade, Launcher Smoke Infrared Scr Initial: 24

RANGE/TRAINING AREA: Facility Code 17430 Impact Area Dudded

1372-MOBL-1013: Navigate the AVLB

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an AVLB with crew, an operational area, a military map, known starting point, destination, and the references.

**STANDARD:** To within 100 meters of the given point.

- 1. Plan the route to move from terrain feature to terrain feature, considering the tactical aspects and ease of movement along the route.
- 2. Use terrain features as checkpoints as the vehicle moves along the route.
- 3. Follow terrain features.
- 4. Determine approximate directions of the various segments of the route.
- 5. Determine total distance and distance between checkpoints.
- 6. Make written or mental notes to remember terrain features as they are

passed.

#### **REFERENCES:**

- 1. FM 21-26 Map Reading and Land Navigation
- 2. MCO 3500.27\_ Operational Risk Management (ORM)
- 3. TM 5-5420-202-10 Operator's Manual for M-60 AVLB

1372-MOBL-1014: Select a Launch Site

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Given an operation order, a tactical scenario requiring an attack across broken terrain with a wet or dry gap of 57 feet or less, specified threat, and the references.

STANDARD: That supports unit mobility requirements during gap crossing.

#### PERFORMANCE STEPS:

- 1. Determine the width of the gap.
- 2. Evaluate far shore and near shore banks.
- 3. Evaluate access and obstacles.
- 4. Evaluate slope and approach.
- 5. Determine best launch site based on evaluated criteria.

#### REFERENCES:

- 1. MCO 3500.27\_ Operational Risk Management (ORM)
- 2. MCRP 3-17A Engineer Field Data
- 3. MCWP 3-17.4 Engineer Reconnaissance
- 4. TM 5-5420-202-10 Operator's Manual for M-60 AVLB

1372-MOBL-1015: Launch the Bridge Across a Gap

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Assigned as an AVLB operator, given an AVLB, a wet or dry gap of 57 feet or less, and the references.

**STANDARD:** Within 5 minutes of arriving at the gap without allowing the far end of the bridge to rise over 36 inches above the far shore bank height.

- 1. Position AVLB.
- 2. Lock brakes.
- 3. Engage hydraulic pump.

- 4. Hold engine speed constant at 1800 RPM.
- 5. Unlock brakes.
- 6. Swing bridge up to vertical.
- 7. Open bridge.
- 8. Deploy bridge.
- 9. Disconnect bridge from launcher.

- 1. MCO 3500.27\_ Operational Risk Management (ORM)
- 2. TM 5-5420-202-10 Operator's Manual for M-60 AVLB

1372-MOBL-1016: Disconnect a Launched Bridge from the Launcher

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an AVLB with crew, a connected launch bridge, and the references.

**STANDARD:** Clearing away from the bridge within 5 minutes after bridge is emplaced.

#### PERFORMANCE STEPS:

- 1. Unlock bridge.
- 2. Disengage launcher from bridge.
- 3. Retract launching mechanism.
- 4. Clear bridge for use.
- 5. Seek cover and concealment.

#### **REFERENCES:**

- 1. MCO 3500.27\_ Operational Risk Management (ORM)
- 2. TM 5-5420-202-10 Operator's Manual for M-60 AVLB

 $\underline{\textbf{1372-MOBL-1017}}$ : Reconnect a Launched Bridge to the Launcher

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**GRADES:** PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an AVLB, a disconnected launched bridge, and the references.

STANDARD: Within 5 minutes of receiving the order to retrieve the bridge.

- 1. Move launcher across bridge.
- 2. Align launcher with bridge.

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- 3. Extend launcher/retrieving mechanism.
- 4. Extend tongue to align tongue pintle with sockets in bridge diaphragm.
- 5. Correct bridge launcher height, as required.
- 6. Prepare bridge for connection.
- 7. Connect launcher to bridge.

### REFERENCES:

- 1. MCO 3500.27\_ Operational Risk Management (ORM)
- 2. TM 5-5420-202-10 Operator's Manual for M-60 AVLB

1372-MOBL-1018: Retrieve the Bridge onto the Launcher

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given an AVLB, a reconnected launched bridge, and the references.

**STANDARD:** Without allowing far shore end of bridge to drag on far shore bank or rise over 36 inches above far shore bank height.

### PERFORMANCE STEPS:

- 1. Engage hydraulic system.
- 2. Prepare bridge for retrieval.
- 3. Remove radio antenna.
- 4. Retract bridge from launch site.
- 5. Lower bridge to launcher.
- 6. Secure bridge to launcher.
- 7. Prepare AVLB for travel.

### **REFERENCES:**

- 1. MCO 3500.27\_ Operational Risk Management (ORM)
- 2. TM 5-5420-202-10 Operator's Manual for M-60 AVLB

22004. 2000-LEVEL EVENTS

1372-MAR-2001: March with a fighting load

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1372

GRADES: LCPL, CPL, SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Given an individual weapon, a fighting load, and as part of a unit movement.

STANDARD: To complete a 15-kilometer march within four hours.

# PERFORMANCE STEPS:

- 1. Assemble the load for the march.
- 2. Don the load for the march.
- 3. Complete a 15 kilometer march.

### **REFERENCES:**

1. MCRP 3-02A Marine Physical Readiness Training for Combat

# MISCELLANEOUS:

<u>ADMINISTRATIVE INSTRUCTIONS</u>: Prior to executing this event, Marines will conduct a 5K and 10K march with the fighting load.

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# CHAPTER 23

# MOS 1390 INDIVIDUAL EVENTS

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### ENG & UTIL T&R MANUAL

### CHAPTER 23

### MOS 1390 INDIVIDUAL EVENTS

- 23000. PURPOSE. This chapter details the individual events that pertain to Bulk Fuel Officer. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful.
- **23001. EVENT CODING.** Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX. This chapter utilizes the following methodology:
- a. Field one. This field represents the community. This chapter contains the following community codes:

b. Field two. This field represents the functional/duty area. This chapter contains the following functional/duty areas:

c. Field three. This field provides the level at which the event is accomplished and numerical sequencing of events. This chapter contains the following event levels:

# 23002. INDEX OF INDIVIDUAL EVENTS

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### 23003. 2000-LEVEL EVENTS

1390-XENG-2001: Direct bulk fuel site construction

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1390

BILLETS: Bulk Fuel Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a fuel distribution plan with a system layout, required equipment, engineer equipment operators and references.

 ${\underline{\tt STANDARD}}$ : To ensure tactical fuel system site is constructed to meet mission requirements.

### PERFORMANCE STEPS:

- 1. Identify site.
- 2. Provide logistical requirements.
- 3. Direct construction.
- 4. Develop bulk fuel site security plan.
- 5. Inspect site as related to mission requirements.

### **REFERENCES:**

- 1. AR 200-1 Environmental Protection and Enhancement
- 2. MCO P5090.2\_ Environmental Compliance and Protection Manual
- 3. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 4. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
- 5. NAVAIR 00-80T-115 Expeditionary Airfield NATOPS Manual6. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

1390-XENG-2002: Report bulk fuel Prepositioned War Reserve Stock (PWRS) to the Combatant Commander (COCOM)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1390

BILLETS: Bulk Fuel Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Provided an operations plan with time phased force deployment data and references.

STANDARD: To ensure petroleum mission requirements are met.

#### PERFORMANCE STEPS:

- 1. Determine fuel requirements.
- 2. Submit requirements to the appropriate Combatant Commander (COCOM) Joint Petroleum Officer (JPO).

### **REFERENCES:**

- 1. DOD 4140.25 Management of Bulk Petroleum Products, Storage and Distribution Facilities
- 2. Joint Publication 4-03 Joint Bulk Petroleum Doctrine
- 3. MCWP 4-11.6 Petroleum and Water Logistics Operations

1390-XENG-2003: Create a spill contingency plan

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1390

BILLETS: Bulk Fuel Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided an operations order, local environmental regulations, unit/base SOP and references.

**STANDARD:** To ensure appropriate first response action is documented and published.

## PERFORMANCE STEPS:

- 1. Review local policies.
- 2. Draft contingency plan.
- 3. Staff contingency plan.
- 4. Publish contingency plan.

#### REFERENCES:

1. Local Standard Operating Procedures (SOP)

1390-XENG-2004: Establish source of fuel supply

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1390

BILLETS: Bulk Fuel Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Provided an operations plan, daily consumption requirements, local standard operating procedures (SOP) and references.

<u>STANDARD</u>: To ensure fuel supply is obtained through approved sources and sustainment requirements are met.

### PERFORMANCE STEPS:

- 1. Determine source of supply.
- 2. Determine route/method by which fuel is to be received.
- 3. Determine fuel acquisition process.

### **REFERENCES:**

- 1. DOD 4140.25 Management of Bulk Petroleum Products, Storage and Distribution Facilities
- 2. MCO 4400.170 Control and Accounting for Petroleum and Related Products
- 3. MCWP 4-11.6 Bulk Liquid Operations
- 4. Joint Publication 4-03 Joint Petroleum Doctrine" to the references

**1390-XENG-2005:** Review Product Quality Deficiency Report (PQDR) (SF 368)

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1390

BILLETS: Bulk Fuel Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

CONDITION: Provided a completed form.

**STANDARD:** To ensure all inaccuracies are identified and submitted for correction.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Review the Product Quality Deficiency Report (PQDR) for accuracy.
- 3. Submit as required.

# REFERENCES:

1. TM 4700-15/1\_ Ground Equipment Record Procedures

1390-XENG-2006: Approve a fire contingency plan

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1390

BILLETS: Bulk Fuel Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Provided operation orders, a completed bulk fuel system layout, applicable fire suppression equipment and references.

**STANDARD:** To ensure 100% of bulk fuel equipment, personnel and product are protected.

### PERFORMANCE STEPS:

- 1. Analyze a potential fire threat.
- 2. Verify the location of all fire suppression equipment.
- 3. Verify personnel to support fire suppression effort.
- 4. Verify external support available.
- 5. Sign and publish.

### **REFERENCES:**

- 1. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
- 2. TM  $07661\_-14/1$  Extinguisher, Fire, Dry Chemical and Aqueous Film Forming Foam, Self-Contained, Model D-4
- 3. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

1390-XENG-2007: Develop Tactical Fuel System (TFS) elastomeric shelf/use life program

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: DoD Directive 4140.27 (Shelf-Life Management Manual) addresses life cycle management of shelf-life items while awaiting issue from depots in the supply chain. The elastomeric fabric tanks and hoses of the TFS are a Type II shelf-life item in the DoD Directive 4140.27.

MOS PERFORMING: 1390

BILLETS: Bulk Fuel Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided a Tactical Fuel System (TFS) and references.

**STANDARD:** To maintain readiness of all fabric and rubberized components of tactical fuel systems.

### PERFORMANCE STEPS:

- 1. Review the references.
- 2. Draft plan.
- 3. Staff plan.
- 4. Publish plan.

#### **REFERENCES:**

- 1. ASTM D380 Standard Test Method for Rubber Hose
- 2. DLAR 140.55 Reporting of Item and Packaging Discrepancies
- 3. DOD 4140.27-M Shelf-Life Item Management Manual
- 4. MCO 4030.36 Marine Corps Packing Manual
- 5. MCO 4450.13 Joint Reg for Safeguarding Sensitive Inventory Items,
- 6. MCO 4450.14 Joint Service Manual (JSM) for Storage and Materials Handling (Apr 94)
- 7. MIL-STD-105 Sampling Procedures and Tables for Inspection by Attributes
- 8. MIL-STD-109 Inspection Terms and Definitions
- 9. MIL-STD-129\_ Department of Defense Standard Practice Military Marking for Shipment and Storage
- 10. MIL-STD-2073-1\_ Standard Practice for Military Packing
- 11. MIL-STD-2073-2\_ Packaging Requirement Code
- 12. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems
- 13. TM 4700-15/1\_ Ground Equipment Record Procedures

1390-XENG-2008: Direct fuel operations at a Forward Arming and Refueling Point (FARP)

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1390

BILLETS: Bulk Fuel Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided an operations order and references.

**STANDARD:** To ensure fuel requirements are met.

## PERFORMANCE STEPS:

- 1. Review references.
- 2. Verify fuel requirements with supported units.
- 3. Conduct terrain/map analysis.
- 4. Coordinate with external teams.
- 5. Solidify Table of Equipment (T/E).
- 6. Solidify Table of Organization (T/O).
- 7. Assign key billets.
- 8. Direct training.

- 1. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
- 2. TM 04486\_-15 Drum, Collapsible Liquid Fuel 500 GAL
- 3. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

4. TM 5-6630-218-10 Aviation Fuel, Contaminant, Test Kit

1390-XENG-2009: Validate bulk fuel hydraulics calculations

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Bulk Fuel Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a hose reel system and a terrain map.

STANDARD: To maximize the efficiency of fuel transfer.

# PERFORMANCE STEPS:

1. Validate feet of head to pounds per square inch.

- 2. Validate speed of fuel.
- 3. Validate reynolds number.
- 4. Validate hydraulic gradient.
- 5. Validate design hydraulic gradient.
- 6. Validate head loss.
- 7. Validate abnormal variants in head pressure.
- 8. Make necessary adjustments as required.

#### **REFERENCES:**

- 1. FM 5-482 Military Petroleum Pipeline Systems
- 2. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

1390-XENG-2010: Manage daily accountability of bulk petroleum products

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1390

BILLETS: Bulk Fuel Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a fuel system with product, local SOPs, access to established fuel pumping site, operations orders and references.

**STANDARD:** To ensure product tolerance meets loss/gain requirements in accordance with local SOP.

# PERFORMANCE STEPS:

- 1. Review the references.
- 2. Establish opening inventory.
- 3. Verify all required documentation.

- 4. Establish closing inventory.
- 5. Validate documented and physical inventories.
- 6. Report discrepancies.

### **REFERENCES:**

- 1. ASTM D-1250 Petroleum Measurement Table, Volume Correction Factors
- DOD 4140.25 Management of Bulk Petroleum Products, Storage and Distribution Facilities
- 3. MCO 4400.170 Control and Accounting for Petroleum and Related Products
- 4. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 5. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
- 6. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

1390-XENG-2011: Coordinate joint service bulk petroleum operations

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**<u>DESCRIPTION</u>**: Joint service bulk petroleum operations include DoD components and multinational agencies/services.

BILLETS: Bulk Fuel Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an operations order, personnel, equipment, fuel site and in a joint environment.

**STANDARD:** To ensure bulk petroleum support is sustained at all levels in accordance with the OPLAN.

### PERFORMANCE STEPS:

- 1. Establish procedures for petroleum distribution.
- 2. Establish procedures for petroleum storage.
- 3. Plan for adjacent unit support for bulk petroleum products.
- 4. Prepare joint petroleum operations plan as required.
- 5. Plan for host nation support (HNS) for bulk petroleum as required.

## **REFERENCES:**

- 1. Joint Publication 4-03 Joint Bulk Petroleum Doctrine
- 2. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 3. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems
- 4. Joint Publication 4-01.6 Joint logistics Over the Shore (JLOTS)" to the references.

1390-XENG-2012: Establish Standard Operating Procedures (SOP)

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1390

BILLETS: Bulk Fuel Officer

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Given Orders and Directives, administrative supplies, computer assets and personnel.

STANDARD: To ensure compliance with published orders and directives.

#### PERFORMANCE STEPS:

- 1. Analyze requirements.
- 2. Draft policies/procedures.
- 3. Staff policies/procedures.
- 4. Publish operating procedures.
- 5. Inspect adherence to operating procedures.
- 6. Identify changes.
- 7. Publish changes.

### **REFERENCES:**

- 29 CFR 1910.147 Chapter 29, Code of Federal Regulations, Part Number 1910 (Occupational Safety and Health Standards), Standard Number 147 - Control of Hazardous Energy (Lockout/Tagout)
- 2. ASTM D-1250 Petroleum Measurement Table, Volume Correction Factors
- 3. DOD 4140.25 Management of Bulk Petroleum Products, Storage and Distribution Facilities
- 4. MCO 3500.27\_ Operational Risk Management (ORM)
- 5. MCO 4400.170 Control and Accounting for Petroleum and Related Products
- 6. MCO 5100.19\_ Marine Corps Traffic Safety Program (Drivesafe)
- 7. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 8. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
- 9. NAVAIR 00-80T-115 Expeditionary Airfield NATOPS Manual
- 10. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

<u>1390-XENG-2013</u>: Implement a Petroleum Quality Surveillance and Control Program for petroleum products

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1390

BILLETS: Bulk Fuel Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided certified personnel, test requirements, test equipment and references.

**STANDARD:** To ensure petroleum products are received and maintained within applicable standards.

### PERFORMANCE STEPS:

- 1. Prepare Quality Surveillance and Control SOP.
- 2. Ensure all sampling, test equipment, and materials are available for personnel doing quality surveillance.
- 3. Ensure personnel are trained in the preparation of sample tags and logs.
- 4. Ensure personnel comply with Quality Surveillance and Control SOP.
- 5. Inspect for adherence to quality control procedures.
- 6. Issue corrective orders.

#### **REFERENCES:**

- 1. FM 10-67-2 Petroleum Laboratory Testing and Operations
- 2. MIL STD 3004 Quality Surveillance Handbook for Fuels, Lubricants and Related Products
- 3. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
- 4. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

1390-XENG-2014: Calculate day of supply

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1390

BILLETS: Bulk Fuel Officer

**GRADES:** WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Provided operation orders, supported unit's T/E, supported unit estimates and references.

**STANDARD:** To ensure sufficient product is available to meet supported unit's fuel requirements.

# PERFORMANCE STEPS:

- 1. Review the references.
- 2. List amount of equipment to be supported.
- 3. Determine day of supply (DOS) based on estimates.

#### **REFERENCES:**

1. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

1390-XENG-2015: Supervise the maintaining of records and forms

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1390

BILLETS: Bulk Fuel Officer

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: MOJT

CONDITION: Provided equipment, required records and forms and references.

STANDARD: To ensure all equipment status is documented.

# PERFORMANCE STEPS:

- 1. Identify maintenance records and forms procedures.
- 2. Ensure accuracy is maintained in all records and forms.

- 1. MCO 5210.11\_ Marine Corps Records Management Program
- 2. MCO 5600.31\_ Marine Corps Printing and Publishing Regulations
- 3. MCO P4790.2\_ MIMMS Field Procedures Manual
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. UM 4790-5 MIMMS-AIS Field Maintenance Procedures
- 6. UNIT SOP Unit's Standing Operating Procedures

# ENG & UTIL T&R MANUAL

# CHAPTER 24

# MOS 1391 INDIVIDUAL EVENTS

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### ENG & UTIL T&R MANUAL

### CHAPTER 24

### MOS 1391 INDIVIDUAL EVENTS

**24000. PURPOSE.** This chapter details the individual events that pertain to Bulk Fuel Specialist. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful.

**24001. EVENT CODING.** Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX. This chapter utilizes the following methodology

a. Field one. This field represents the community. This chapter contains the following community codes:

b. Field two. This field represents the functional/duty area. This chapter contains the following functional/duty areas:

Code
XENG
Description
General Engineering

c. Field three. This field provides the level at which the event is accomplished and numerical sequencing of events. This chapter contains the following event levels:

Code 1000 Description Core Skills
2000 Core Plus Skills

### 24002. INDEX OF INDIVIDUAL EVENTS

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# 24003. 1000-LEVEL EVENTS

1391-XENG-1001: Operate the Six-Container (SIX-CON) fuel system

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1391

**BILLETS:** Bulk Fuel Specialist

**GRADES:** PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given required components, necessary tools and fuel.

**STANDARD:** To ensure Marine is capable of demonstrating refueling/defueling procedures and set up in accordance with TM 09003/09002-15&P.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Perform before Preventive Maintenance Checks and Services (PMCS).
- 3. Connect pump modules to tank modules.
- 4. Dispense fuel.
- 5. Perform during Preventive Maintenance Checks and Services (PMCS).
- 6. Perform shut down procedures.
- 7. Perform after operations Preventive Maintenance Checks and Services (PMCS).

#### **REFERENCES:**

- 1. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
- 2. TM 07387\_/10802\_-OI/3 Pump, Centrifugal, Fuel 150 GPM
- 3. TM 09003\_/ 09002\_-15&P/1w/Ch 1-5 Operation and Maintenance Instructions w/Repair Parts List and Components (List SIXCON)
- 4. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

1391-XENG-1002: Operate a Tactical Fuel System (TFS)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** The TFS includes: Expedient Refueling System (ERS), Helicopter Expedient Refueling System (HERS), Tactical Airfield Fuel Dispensing System (TAFDS) and Amphibious Assault Fuel System (AAFS).

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist

GRADES: PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given required components, necessary tools, fuel source, administrative supplies and required personnel.

**STANDARD:** To ensure components are deployed and fuel requirements are satisfied.

### PERFORMANCE STEPS:

- 1. Determine type of fuel system.
- 2. Review references.
- 3. Draw a tactical fuel system layout.
- 4. Assemble system.
- 5. Perform before Preventive Maintenance Checks and Services (PMCS).
- 6. Conduct fuel operations.
- 7. Perform during Preventive Maintenance Checks and Services (PMCS).
- 8. Perform shut down procedures.
- 9. Perform after Preventive Maintenance Checks and Services (PMCS).

### **REFERENCES:**

- 1. SL-3-03707F w/Ch 1 Pump Assembly, Expedient Refueler
- 2. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems
- 3. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual

1391-XENG-1003: Deploy a Hose Reel System (HRS) in support of Tactical Fuel Systems (TFS)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: The purpose of the HRS is to provide powered or manual deployment and retrieval of lightweight 6-inch hose. The hose reel can be used to connect assemblies within the AAFS and distribute fuel to other Marine Corps tactical fuel systems.

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist

GRADES: PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a Hose Reel System (HRS), Tactical Fuel System (TFS), supporting vehicles and designated route.

**STANDARD:** To ensure components are deployed and fuel requirements are satisfied.

### PERFORMANCE STEPS:

- 1. Review the reference.
- 2. Operate system.
- 3. Inspect equipment for retrieval.
- 4. Retrieve as required.

### **REFERENCES:**

- 1. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 2. TM 10596\_-13&P Marine Corps Hose Reel System
- 3. TM 3835-OI/1 Marine Corps Tactical Fuel Systems

1391-XENG-1004: Operate a fuel pump assembly

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**DESCRIPTION:** There are two types of fuel pumps: 150 and 600 gallons per minute (GPM).

MOS PERFORMING: 1391

**BILLETS:** Bulk Fuel Specialist

GRADES: PVT, PFC, LCPL

# INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a pump assembly, required Tactical Fuel System (TFS) and fuel.

STANDARD: To dispense fuel in support of a Tactical Fuel System (TFS).

### PERFORMANCE STEPS:

- 1. Determine type of fuel pump.
- 2. Review references.
- 3. Perform before operational checks.
- 4. Start pump.
- 5. Dispense fuel.
- 6. Perform during operations checks.
- 7. Conduct shut down procedures.
- 8. Perform after operations checks.

### **REFERENCES:**

- 1. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
- 2. TM 07387C/10802AOI/3 Pump, Centrifugal, Fuel, 150 GPM
- 3. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems
- 4. TM 5-4320-303-10 600 GPM Pump

1391-XENG-1005: Perform refueling operations

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist

GRADES: PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided a tactical fuel system, trained personnel, required personal protective equipment and administrative supplies.

STANDARD: To ensure fuel is dispensed without safety mishaps.

## PERFORMANCE STEPS:

- 1. Identify equipment type.
- 2. Review references.
- 3. Conduct all safety procedures.
- 4. Refuel equipment.
- 5. Complete proper paperwork.

- 1. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
- 2. NAVAIR 00-80T-115 Expeditionary Airfield NATOPS Manual
- 3. NAVAIR 06-5-502 Aircraft Refueling For Shore Activities
- 4. NAVAIRINST 10340.3\_ Maintaining Quality and Limiting Contamination of Aircraft Fuels

- 5. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems
- 6. UNIT SOP Unit's Standing Operating Procedures

1391-XENG-1006: Execute a spill contingency plan

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist

GRADES: PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a requirement to operate a tactical fuel system, a spill contingency plan, required personal protective equipment and equipment.

**STANDARD:** To contain spills and immediately reduce or eliminate the risk of personnel injury and environmental impact.

### PERFORMANCE STEPS:

- 1. Stop the flow of fuel.
- 2. Contain spill.
- 3. Notify immediate supervisor of incident.
- 4. Follow local SOP.
- 5. Commence clean-up.

### **REFERENCES:**

- 1. Federal, State, and Local Environmental Regulations
- 2. Local Standard Operating Procedures (SOP)
- 3. AR 200-1 Environmental Protection and Enhancement
- 4. MCO 3500.27\_ Operational Risk Management (ORM)
- 5. MCO P5090.2\_ Environmental Compliance and Protection Manual
- 6. NAVFAC P-908 Oil Spill Control for Inland Waters and Harbors
- 7. NAVMC DIR 5100.8\_ Marine Corps Occupational Safety and Health (OSH) Program Manual
- 8. OPNAVINST 5090.1\_ Environmental Readiness Program Manual
- 9. TC 5-400 w/CH #1 Unit Leader's Handbook for Environmental Stewardship

1391-XENG-1007: Operate fire extinguishing equipment

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist

**GRADES:** PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

 $\underline{ ext{CONDITION}}$ : Given fire extinguishing equipment, required firefighting agents and personal protective equipment.

**STANDARD:** To suppress or extinguish fuel fires.

#### PERFORMANCE STEPS:

- 1. Identify the types of fire extinguishing equipment.
- 2. Don personal protective equipment (PPE) as required.
- 3. Extinguish fire.
- 4. Perform post operational procedures.

#### **REFERENCES:**

- 1. Local Standard Operating Procedures (SOP)
- 2. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
- 3. TM 07661\_-14/1 Extinguisher, Fire, Dry Chemical and Aqueous Film Forming Foam, Self-Contained, Model D-4
- 4. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

### SUPPORT REQUIREMENTS:

MATERIAL: Potassium Bicarbonate (Purple K Powder), Aqueous Film Forming
Foam (AFFF), Nitrogen and Water

1391-XENG-1008: Obtain fuel sample

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

<u>DESCRIPTION</u>: All samples taken will be in accordance with standard procedures described in ASTM D-4057, ASTM D-270, and MIL-STD-3004. Precautions are necessary to ensure a representative sample.

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist

GRADES: PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a fuel tank, equipment, containers, administrative supplies and personal protective equipment (PPE).

STANDARD: To ensure sample is taken to perform testing.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Determine type of sample needed.
- 3. Identify sampling equipment.
- 4. Obtain sample.
- 5. Complete administrative requirements.

# REFERENCES:

1. ASTM D-4057 Standard Practice for Manual Sampling of Petroleum Products

- 2. FM 10-67-2 Petroleum Laboratory Testing and Operations
- 3. MIL STD 3004 Quality Surveillance Handbook for Fuels, Lubricants and Related Products
- 4. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
- 5. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems
- 6. ASTM D-270 Standard Method of Sampling Petroleum and Petroleum Products

**1391-XENG-1009:** Test fuel

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Fuel testing methods/equipment includes the following: Visual Test, API Specific Gravity, B-2 Anti-Icing Additive Test, Aviation Test kit, Combined Contaminated Fuel Detector (CCFD) and MARFLASH.

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist

GRADES: PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a fuel source and testing equipment.

**STANDARD:** To ensure the sample meets quality assurance and surveillance standards.

# PERFORMANCE STEPS:

- 1. Identify type of test required.
- 2. Review the references.
- 3. Perform the test.
- 4. Record results.

# REFERENCES:

- 1. MIL STD 3004 Quality Surveillance Handbook for Fuels, Lubricants and Related Products
- 2. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
- 3. TM 3835-OI/1 Marine Corps Tactical Fuel Systems
- 4. TM 5-6630-218-10 Aviation Fuel, Contaminant, Test Kit
- 5. ASTM D-287 12b Standard Test Method for API Gravity of Crude Petroleum and Petroleum Products (Hydrometer Method)
- 6. ASTM D-1250 Petroleum Measurement Table, Volume Correction Factors

1391-XENG-1010: Gauge a fixed fuel storage tank

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist

**GRADES:** PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a tank with fuel, gauging equipment, personal protective equipment and administrative supplies.

STANDARD: To determine on-hand inventory of fuel.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Identify required equipment.
- 3. Identify reference point.
- 4. Identify fuel level.
- 5. Identify bottom, sediment and water.
- 6. Calculate amount of fuel corrected to 60 degrees F.

### **REFERENCES:**

- 1. ASTM D-1250 Petroleum Measurement Table, Volume Correction Factors
- 2. ASTM D-270 Standard Method of Sampling Petroleum and Petroleum Products
- 3. ASTM D-4057 Standard Practice for Manual Sampling of Petroleum Products
- 4. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
- 5. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

1391-XENG-1011: Perform collapsible tank repair

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

**DESCRIPTION:** Two types of repair methods for collapsible fabric tanks are provided. One consists of mechanical patches and wooden plugs to repair small holes and cuts in collapsible fabric tanks. The other consists of a vulcanizing unit to apply patches to larger cuts in collapsible fabric tanks.

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist

**GRADES:** PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a damaged collapsible fuel tank and repair kit.

**STANDARD:** To ensure equipment is repaired to an operational state of readiness.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Perform visual inspection.
- 3. Perform fuel tank repairs.
- 4. Document maintenance performed.

- 1. TM 04486\_-15 Drum, Collapsible Liquid Fuel 500 GAL
- 2. TM 10-5430-242-12&P 3k thru 50K Collapsible Tanks
- 3. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems
- 4. TB 10-5430-253-13 Technical Bulletin for Collapsible Fabric Fuel Tanks

1391-XENG-1012: Administer first aid for fuel related injuries

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

<u>DESCRIPTION</u>: Health hazards are inherent in any fuel handling operations. Personnel must minimize the risk of fuel contact with eyes, skin, inhalation of vapors and ingestion.

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist

GRADES: PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a requirement.

STANDARD: To reduce or eliminate the risk of personal injury.

## PERFORMANCE STEPS:

- 1. Identify type of injury.
- 2. Apply first aid.
- 3. Seek medical assistance immediately.

### REFERENCES:

- 1. NAVMC DIR 5100.8\_ Marine Corps Occupational Safety and Health (OSH)
  Program Manual
- 2. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

1391-XENG-1013: Conduct a Limited Technical Inspection (LTI)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist

GRADES: PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given equipment records, equipment, tools and associated forms.

**STANDARD:** To inspect for operability and identify all discrepancies.

## PERFORMANCE STEPS:

- 1. Review the references.
- 2. Conduct LTI.
- 3. Complete forms.

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

1391-XENG-1014: Document equipment usage history

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist

GRADES: PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given equipment and associated forms.

**STANDARD:** To ensure the descriptive data and equipment operations are documented.

### PERFORMANCE STEPS:

- 1. Review the reference.
- 2. Complete associated forms.

### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. TM 4700-15/1\_ Ground Equipment Record Procedures

1391-XENG-1015: Prepare bulk fuel equipment for embarkation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1391

**BILLETS:** Bulk Fuel Specialist

GRADES: PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

<u>CONDITION</u>: Provided an Equipment Density List (EDL), mission requirements and references.

STANDARD: To ensure movement of equipment without loss of Government assets.

# PERFORMANCE STEPS:

1. Review EDL.

2. Pack equipment as directed.

### **REFERENCES:**

- 1. Local Standard Operating Procedures (SOP)
- 2. DODD 4500.9E Transportation and Traffic Management September 11, 2007
- 3. MCO 4610.35 USMC Equipment Characteristics File

1391-XENG-1016: Operate the Ground Expedient Refueling System (GERS)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist

GRADES: PVT, PFC, LCPL

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given equipment, power source and fuel.

STANDARD: To dispense fuel.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Assemble Ground Expedient Refueling System (GERS).
- 3. Perform before Preventive Maintenance Checks and Services (PMCS).
- 4. Dispense fuel.
- 5. Perform during Preventive Maintenance Checks and Services (PMCS).
- 6. Perform shut-down procedures.
- 7. Perform after Preventive Maintenance Checks and Services (PMCS).

#### REFERENCES:

1. TM 11219A/112120A-OI Ground Expedient Refueling System (GERS)

# 24004. 2000-LEVEL EVENTS

1391-XENG-2001: Conduct operations utilizing a tactical fuel laboratory

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

<u>DESCRIPTION</u>: Currently (FY13), the Tactical Petroleum Laboratory Medium (TPLM) is used to provide an organic quality control capability for bulk fuel operations in the field. It provides the capability to test suspect deliveries for acceptability and suitability, and will permit captured fuels to be tested for suitability as well. However, in the future, Petroleum Quality Analysis System-Enhanced (PQAS-E) will be fielded to replace the Tactical Petroleum Laboratory Medium (TPLM).

MOS PERFORMING: 1391

BILLETS: Laboratory Technician

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a generator, environmental control unit, water source and references.

STANDARD: To provide quality surveillance of Class III products.

### PERFORMANCE STEPS:

- 1. Identify type of test required.
- 2. Review the reference.
- 3. Perform the test.
- 4. Record results.

### **REFERENCES:**

- 1. FM 10-67-2 Petroleum Laboratory Testing and Operations
- 2. MIL STD 3004 Quality Surveillance Handbook for Fuels, Lubricants and Related Products
- 3. TM  $10188\_-14\&P/1$  Operator's Organizational & Intermediate Maintenance Manual with Parts List TPLM
- 4. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems
- 5. TM 11932A-OI Operators Manual and Field Maintenance Manual

1391-XENG-2002: Supervise bulk fuel equipment for embarkation

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist, Embark NCO

GRADES: CPL, SGT

INITIAL TRAINING SETTING: FORMAL

 $\underline{\text{CONDITION}}$ : Provided a Table of Equipment (T/E), mission requirements and references.

**STANDARD:** To ensure movement of required equipment without loss of Government assets.

### PERFORMANCE STEPS:

- 1. Identify Equipment Density List (EDL) / Unit Density List (UDL).
- 2. Validate operational timeline with mission requirements.
- 3. Validate inventory.
- 4. Validate load plan with embarkation representatives.

- 1. MCO P4030.19\_ Preparing Hazardous Materials for Military Air Shipments
- 2. MCRP 5-12D Organization of Marine Corps Forces
- 3. MCWP 4-1 Logistics Operations
- 4. MIL-STD-129\_ Department of Defense Standard Practice Military Marking

for Shipment and Storage

- 5. MIL-STD-2073-1\_ Standard Practice for Military Packing
- 6. MIL-STD-2073-2\_ Packaging Requirement Code
- 7. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems
- 8. UNIT SOP Unit's Standing Operating Procedures

1391-XENG-2003: Evacuate hose line

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist

GRADES: CPL, SGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Given a tactical situation, hose evacuation kit, 260 cubic feet per minute (CFM) compressor and references.

STANDARD: To reclaim residual fuel in hoses.

### PERFORMANCE STEPS:

- 1. Check equipment for serviceability.
- 2. Assemble equipment.
- 3. Perform required operations.
- 4. Follow local unit SOP.

#### **REFERENCES:**

- 1. TM 05672\_-12&P/1 Operation and Maintenance Manual with Repair Parts and Component List, Fuel Hose Evacuation Kits
- 2. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

# **SUPPORT REQUIREMENTS:**

<u>UNITS/PERSONNEL</u>: The 260 CFM Compressor must be operated by a trained and licensed Marine.

1391-XENG-2004: Perform maintenance management NCO functions

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist

GRADES: CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a Table of Equipment (T/E), forms, records, tools and

references.

**STANDARD:** To ensure all equipment is maintained in an operational state of readiness.

### PERFORMANCE STEPS:

- 1. Follow desktop procedures.
- 2. Follow maintenance management policies and procedures.
- 3. Conduct required actions.
- 4. Conduct corrective actions.
- 5. Report to higher.

#### **REFERENCES:**

- 1. Appropriate Technical Manuals
- 2. MCO P4790.2\_ MIMMS Field Procedures Manual
- 3. UM 4790-5 MIMMS-AIS Field Maintenance Procedures

1391-XENG-2005: Implement a fire contingency plan

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

BILLETS: Bulk Fuel Specialist

GRADES: CPL, SGT

INITIAL TRAINING SETTING: MOJT

**CONDITION:** Provided operation orders, a completed bulk fuel system layout, applicable fire suppression equipment and references.

**STANDARD:** To ensure the plan contains information regarding protection for 100% of bulk fuel equipment, personnel and product.

# PERFORMANCE STEPS:

- 1. Review unit contingency plan.
- 2. Ensure personnel receive first aid and fire suppression training.
- 3. Complete Preventive Maintenance Checks and Services (PMCS).
- 4. Ensure applicable equipment is correctly placed in area.
- 5. Report incidents per local standard operating procedures.

# REFERENCES:

- 1. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
- 2. TM 07661C-14/1 Extinguisher, Fire, Dry Chemical and Aqueous Film Forming Foam, Self-Contained, Model D-4
- 3. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

1391-XENG-2006: Supervise Tactical Fuel System (TFS) operations

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist

GRADES: CPL, SGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided an operation order, a fuel distribution system plan, equipment, materials, personnel and references

**STANDARD:** To ensure all fuel requirements can support the concept of operations.

### PERFORMANCE STEPS:

- 1. Review bulk fuel plan.
- 2. Review SOP.
- 3. Operate Tactical Fuel System.
- 4. Maintain days of supply as required.
- 5. Supervise personnel.
- 6. Report to higher.

### **REFERENCES:**

- 1. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
- 2. TM 3835-OI/1 Marine Corps Tactical Fuel Systems

1391-XENG-2007: Supervise operations utilizing a tactical fuel laboratory

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

BILLETS: Bulk Fuel Specialist, Bulk Fuel Unit Leader, Platoon Sergeant

GRADES: SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided laboratory technician, tactical fuel laboratory and test results.

**STANDARD:** To ensure quality surveillance of Class III products.

## PERFORMANCE STEPS:

- 1. Review references.
- 2. Review unit SOP.
- 3. Supervise petroleum product testing per mission requirements.
- 4. Supervise daily operations.

- 1. FM 10-67-2 Petroleum Laboratory Testing and Operations
- 2. TM 10188\_-14&P/1 Operator's Organizational & Intermediate Maintenance Manual with Parts List TPLM
- 3. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems
- 4. TM 11932A-OI Operators Manual and Field Maintenance Manual

1391-XENG-2008: Supervise Tactical Fuel System (TFS) elastomeric program

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist, Bulk Fuel Unit Leader, Platoon Sergeant

GRADES: SSGT, GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a tactical fuel system and references.

**STANDARD:** To maintain readiness of all fabric and rubberized components of tactical fuel systems.

# PERFORMANCE STEPS:

- 1. Review references.
- 2. Determine status of on-hand elastomeric components.
- 3. Maintain tactical fuel system elastomeric shelf/use life records.
- 4. Establish a tactical fuel system elastomeric testing program.
- 5. Establish a tactical fuel system elastomeric inspection program
- 6. Submit required shelf-life reports.

#### **REFERENCES:**

- 1. ASTM D380 Standard Test Method for Rubber Hose
- 2. DLAR 140.55 Reporting of Item and Packaging Discrepancies
- 3. DOD 4140.25 Management of Bulk Petroleum Products, Storage and Distribution Facilities
- 4. MCO 4030.36 Marine Corps Packing Manual
- 5. MCO 4030.40\_ Packaging of Hazardous Material
- 6. MCO 4140.5 USMC Shelf-Life Program
- 7. MCO 4450.13 Joint Reg for Safeguarding Sensitive Inventory Items,
- 8. MIL-STD-109 Inspection Terms and Definitions
- 9. MIL-STD-129\_ Department of Defense Standard Practice Military Marking for Shipment and Storage
- 10. MIL-STD-2073-1\_ Standard Practice for Military Packing
- 11. MIL-STD-2073-2\_ Packaging Requirement Code
- 12. TM 3835-OI/1 Marine Corps Tactical Fuel Systems
- 13. TM 4700-15/1\_ Ground Equipment Record Procedures

1391-XENG-2009: Supervise bulk fuel site construction

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist, Bulk Fuel Unit Leader, Platoon Sergeant

GRADES: SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a fuel distribution plan with a system layout, bulk fuel equipment, engineer equipment, operators and references.

**STANDARD:** To ensure tactical fuel system site is constructed to meet mission requirements.

### PERFORMANCE STEPS:

- 1. Manage timeline.
- 2. Guide engineers in performance of site construction.
- 3. Guide engineers in the prepositioning of bulk fuel equipment.
- 4. Observe assembly of tactical fuel system.

#### **REFERENCES:**

- 1. AR 200-1 Environmental Protection and Enhancement
- 2. MCO P5090.2\_ Environmental Compliance and Protection Manual
- 3. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 4. NAVAIR 00-80T-115 Expeditionary Airfield NATOPS Manual
- 5. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

1391-XENG-2010: Plan Tactical Fuel System (TFS) employment

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist, Bulk Fuel Unit Leader, Platoon Sergeant

GRADES: SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided an operation order, a fuel distribution system plan, equipment, materials, personnel and references.

**STANDARD:** To ensure all fuel requirements can support the concept of operations.

# PERFORMANCE STEPS:

- 1. Identify bulk fuel requirements.
- 2. Determine tactical fuel system requirements.
- 3. Design construction plan.
- 4. Implement bulk fuel site security plan.

- 1. AR 200-1 Environmental Protection and Enhancement
- 2. ASTM D 1298 Standard Test method for Density, Relative Density (Specific Gravity)
- 3. ASTM D-1250 Petroleum Measurement Table, Volume Correction Factors
- 4. ASTM D-287 Standard Test Method for API Gravity
- 5. ASTM D380 Standard Test Method for Rubber Hose
- 6. ASTM D-4057 Standard Practice for Manual Sampling of Petroleum Products
- 7. D2276-00 Standard Test Method for Particulate Contaminant in Aviation Fuel by Line Sampling

- 8. D5006-96 Standard Test Method for Measurement of Fuel System Icing Inhibitors (Ether Type) in Aviation Fuels.kym
- 9. FM 10-69 Petroleum Supply Point Equipment and Operations
- 10. FMFM 3-1 Command and Staff Action
- 11. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 12. MCO 4030.36 Marine Corps Packing Manual
- 13. MCO 4030.40\_ Packaging of Hazardous Material
- 14. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 15. MIL STD 3004 Quality Surveillance Handbook for Fuels, Lubricants and Related Products
- 16. TM 01034\_-12/P1 3000 Gallon Tank
- 17. TM 04486 -15 Drum, Collapsible Liquid Fuel 500 GAL
- 18. TM 05684\_/05685\_-12 MEP-3 Generator Set
- 19. TM  $07661\_-14/1$  Extinguisher, Fire, Dry Chemical and Aqueous Film Forming Foam, Self-Contained, Model D-4
- 20. TM 08990\_-15&P/1 Sixcon Water Tank Module
- 21. TM 10188\_-14&P/1 Operator's Organizational & Intermediate Maintenance Manual with Parts List TPLM
- 22. TM 10596\_-13&P Marine Corps Hose Reel System
- 23. TM 10668\_-13&P Compressed Air Foam System-Mobile
- 24. TM 11082A/11082B-OI Operator and Field Maintenance Manual Including Repair Parts and Special Tools List (RPSTL) for Environmental Control Unit, 3 Ton, 36,000 BTU/hr (36K ECU)
- 25. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems
- 26. TM 4700-15/1\_ Ground Equipment Record Procedures
- 27. ULSS-00 3089-15 TPLM
- 28. UM 4790-5 MIMMS-AIS Field Maintenance Procedures
- 29. UM 4790-5 Users Manual MIMMS
- 30. UNIT SOP Unit's Standing Operating Procedures

<u>1391-XENG-2011</u>: Supervise a petroleum quality surveillance and control program

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist, Bulk Fuel Unit Leader, Platoon Sergeant

**GRADES:** SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided certified personnel, test requirements, test equipment and references.

**STANDARD:** To ensure petroleum products are received and maintained within applicable standards.

### PERFORMANCE STEPS:

- 1. Review a quality surveillance and control SOP.
- 2. Ensure all sampling, test equipment, and materials are available for

personnel doing quality surveillance.

- 3. Ensure personnel are trained in the preparation of sample tags and logs.
- 4. Ensure personnel comply with SOP.
- 5. Inspect for adherence to quality control procedures.
- 6. Issue corrective orders.

#### **REFERENCES:**

- 1. FM 10-67-2 Petroleum Laboratory Testing and Operations
- 2. MCO 4855.10 Product Quality Deficiency Report (PQDR)
- MIL-STD-3004 DOD standard practice Quality Surveillance for Fuels, Lubricants, and Related Products
- 4. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
- 5. TM 3835-OI/1 Marine Corps Tactical Fuel Systems

1391-XENG-2012: Supervise a maintenance management program

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist, Bulk Fuel Unit Leader, Platoon Sergeant

GRADES: SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given a Table of Equipment (T/E), forms, records, tools and references.

**STANDARD:** To ensure all equipment is maintained in an operational state of readiness.

### PERFORMANCE STEPS:

- 1. Maintain desktop procedures.
- 2. Follow maintenance management policies and procedures.
- 3. Inspect required actions.
- 4. Identify corrective action.

### **REFERENCES:**

- 1. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
- 2. MCO P4790.2\_ MIMMS Field Procedures Manual
- 3. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems
- 4. TM 4700-15/1\_ Ground Equipment Record Procedures
- 5. UM 4400-15 Marine Corps User Manual (Organic Property Control)
- 6. UNIT SOP Unit's Standing Operating Procedures

1391-XENG-2013: Monitor bulk fuel inventory

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist, Bulk Fuel Unit Leader, Platoon Sergeant

GRADES: SSGT, GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided a tactical fuel system, bulk fuel inventory and references.

STANDARD: To ensure accurate accountability of product.

#### PERFORMANCE STEPS:

- 1. Review references.
- 2. Validate physical inventory.
- 3. Validate documented inventory.
- 4. Compare physical and documented inventories.

### **REFERENCES:**

- 1. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
- 2. TB 10-5430-253-13 Technical Bulletin for Collapsible Fabric Fuel tanks
- 3. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

1391-XENG-2014: Prepare a fire contingency plan

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist, Bulk Fuel Unit Leader, Platoon Sergeant

GRADES: SSGT, GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided operation orders, a completed bulk fuel system layout, applicable fire suppression equipment and references.

**STANDARD:** To ensure the plan contains information regarding protection for 100% of bulk fuel equipment, personnel and product.

#### PERFORMANCE STEPS:

- 1. Analyze a potential fire threat.
- 2. Identify the location of all fire suppression equipment..
- 3. Assign personnel to support fire suppression effort.
- 4. Schedule inspections of fire suppression equipment and facilities.
- 5. List external support available..
- 6. Develop fire prevention plans.
- 7. Plan and schedule fire drills.

- 1. Federal, State, and Local Environmental Regulations
- 2. MCO 3500.27\_ Operational Risk Management (ORM)

- 3. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
- 4. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems
- 5. UNIT SOP Unit's Standing Operating Procedures

1391-XENG-2015: Calculate bulk fuel hydraulics

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist, Bulk Fuel Unit Leader, Platoon Sergeant

GRADES: SSGT, GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a hose reel system and a terrain map.

STANDARD: To maximize the efficiency of fuel transfer.

## PERFORMANCE STEPS:

- 1. Calculate feet of head to pounds per square inch.
- 2. Calculate speed of fuel.
- 3. Calculate reynolds number.
- 4. Calculate hydraulic gradient.
- 5. Calculate design hydraulic gradient.
- 6. Calculate head loss.
- 7. Calculate abnormal variants in head pressure.
- 8. Apply to Hose Reel employment planning.

## REFERENCES:

- 1. FM 5-482 Military Petroleum Pipeline Systems
- 2. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems
- 3. TM 10596A 13&P Marine Corps Hose Reel System

 $\underline{\textbf{1391-XENG-2016}}$ : Develop Petroleum, Oils and Lubricants (POL) appendix to Operation Order

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist, Bulk Fuel Unit Leader, Platoon Sergeant

GRADES: SSGT, GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given commander's intent, concept of operations, warning order, fragmentary order, logistic requirements and references.

STANDARD: To ensure bulk fuel support is in accordance with the concept of

operations.

### PERFORMANCE STEPS:

- 1. Participate in Operational Planning Team (OPT) meetings, as required.
- 2. Verify the mission.
- 3. Verify the concept of operations.
- 4. Verify the overall concept and priorities of logistical support.
- 5. Analyze the situation, mission, execution, administration and logistics and the command and control.
- 6. Validate fuel requirements.
- 7. Draft Annex 1 to Appendix D to the operation order.
- 8. Submit to higher authority.

#### **REFERENCES:**

- 1. Appendix 1 to Annex D Operations Order
- 2. FMFM 3-1 Command and Staff Action
- 3. Joint Publication 4-03 Joint Bulk Petroleum Doctrine
- 4. JP 5-021 JOPS
- 5. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 6. MIL STD 3004 Quality Surveillance Handbook for Fuels, Lubricants and Related Products
- 7. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
- 8. NAVAIRINST 10340.3\_ Maintaining Quality and Limiting Contamination of Aircraft Fuels
- 9. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

1391-XENG-2017: Conduct joint service bulk petroleum operations

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist, Bulk Fuel Unit Leader, Platoon Sergeant

**GRADES:** SSGT, GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Given an operations order, personnel, equipment, fuel site and in a joint environment.

**STANDARD:** To ensure bulk petroleum support is continuous throughout operations, and at levels that sustain operational momentum in accordance with an operation order/operation plan (OPORD/OPLAN).

## PERFORMANCE STEPS:

- 1. Conduct procedures for petroleum distribution.
- 2. Conduct procedures for petroleum storage.
- 3. Coordinate adjacent unit support for bulk fuel products.
- 4. Conduct joint bulk petroleum operations plan.

## REFERENCES:

1. Joint Publication 4-03 Joint Bulk Petroleum Doctrine

- 2. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 3. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems
- 4. Joint Publication 4-01.6 Joint logistics Over the Shore (JLOTS)

1391-XENG-2018: Execute Standard Operating Procedures (SOP)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist, Bulk Fuel Unit Leader, Platoon Sergeant

GRADES: SSGT, GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given orders, directives, administrative supplies and personnel.

STANDARD: To ensure bulk fuel requirements are satisfied.

## PERFORMANCE STEPS:

- 1. Review SOP.
- 2. Inspect adherence to operating procedures.
- 3. Identify deficiencies.
- 4. Recommend changes.

#### **REFERENCES:**

- 1. MCWP 4-11.6 Petroleum and Water Logistics Operations
- 2. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
- 3. NAVAIR 00-80T-115 Expeditionary Airfield NATOPS Manual
- 4. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems

1391-XENG-2019: Manage embarkation of tactical fuel equipment

**EVALUATION-CODED:** NO **SUSTAINMENT INTERVAL:** 12 months

**BILLETS:** Bulk Fuel Specialist

GRADES: SSGT, GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided tactical fuel equipment, application tools, embarkation order and references.

**STANDARD:** To ensure inventory control is conducted.

## PERFORMANCE STEPS:

- 1. Review the references.
- 2. Review embarkation order.
- 3. Maintain equipment embarkation readiness per the references.
- 4. Maintain equipment inventory levels per the references.

### **REFERENCES:**

- 1. MCO P4030.19\_ Preparing Hazardous Materials for Military Air Shipments
- 2. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems
- 3. TM 4700-15/1\_ Ground Equipment Record Procedures

1391-XENG-2020: Supervise bulk fuel operations at a Forward Arming and Refueling Point (FARP)

EVALUATION-CODED: NO SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 1391

BILLETS: Bulk Fuel Specialist, Bulk Fuel Unit Leader, Platoon Sergeant

GRADES: SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

**CONDITION:** Provided an operations order, equipment, personnel and references.

STANDARD: To ensure fuel requirements are met.

### PERFORMANCE STEPS:

- 1. Review references.
- 2. Verify mission requirements with supported units.
- 3. Coordinate with external teams.

### REFERENCES:

- 1. MCWP 3.21.1 Aviation Ground Support
- 2. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
- 3. TM 04486\_-15 Drum, Collapsible Liquid Fuel 500 GAL
- 4. TM 3835-OI/1\_ Marine Corps Tactical Fuel Systems
- 5. TM 5-4330-217-12 Operator and Organizational Maintenance Manual, Filter Separator, Liquid 100 GPM, Frame Mounted
- 6. TM 5-6630-218-10 Aviation Fuel, Contaminant, Test Kit

# ENG & UTIL T&R MANUAL

# APPENDIX A

## ACRONYMS AND ABBREVIATIONS

| ADMIN | Administrative             |
|-------|----------------------------|
| CMOB  | Counter-Mobility           |
| DEMO  | Demolitions                |
| EOPS  | Engineer Operations        |
| FUEL  | Bulk Fuel                  |
| HEOP  | Heavy Equipment Operations |
| HORZ  | Horizontal Construction    |
| MANT  | Maintenance                |
| MOBL  | Mobility                   |
| PINF  | Provisional Infantry       |
| PLAN  | Planning                   |
| RECN  | Engineer Reconnaissance    |
| SRVY  | Surveying                  |
| SURV  | Survivability              |
| UTIL  | Utilities                  |
| VERT  | Vertical Construction      |
| XENG  | General Engineering        |

## ENG & UT T&R MANUAL

#### APPENDIX B

### TERMS AND DEFINITIONS

Terms in this glossary are subject to change as applicable orders and directives are revised. Terms established by Marine Corps orders or directives take precedence after definitions found in Joint Publication 1-02, DOD Dictionary of Military and Associated Terms.

Α

After Action Review. A professional discussion of training events conducted after all training to promote learning among training participants. The formality and scope increase with the command level and size of the training evolution. For longer exercises, they should be planned for a predetermined times during an exercise. The results of the AAR shall be recorded on an after action report and forwarded to higher headquarters. The commander and higher headquarters use the results of an AAR to reallocate resources, reprioritize their training plan, and plan for future training.

Assessment. An informal judgment of the unit's proficiency and resources made by a commander or trainer to gain insight into the unit's overall condition. It serves as the basis for the midrange plan. Commanders make frequent use of these determinations during the course of the combat readiness cycle in order to adjust, prioritize or modify training events and plans.

C

Chaining. A process that enables unit leaders to effectively identify subordinate collective events and individual events that support a specific collective event. For example, collective training events at the 4000-level are directly supported by collective events at the 3000-level. When a higher-level event by its nature requires the completion of lower level events, they are "chained"; Sustainment credit is given for all lower level events chained to a higher event.

Collective Event. A clearly defined, discrete, and measurable activity, action, or event (i.e., task) that requires organized team or unit performance and leads to accomplishment of a mission or function. A collective task is derived from unit missions or higher-level collective tasks. Task accomplishment requires performance of procedures composed of supporting collective or individual tasks. A collective task describes the exact performance a group must perform in the field under actual operational conditions. The term "collective" does not necessarily infer that a unit accomplishes the event. A unit, such as a squad or platoon conducting an attack; may accomplish a collective event or, it may be accomplished by an individual to accomplish a unit mission, such as a battalion supply officer completing a reconciliation of the battalion's CMR. Thus, many collective events will have titles that are the same as individual events; however, the

standard and condition will be different because the scope of the collective event is broader.

Collective Training Standards (CTS). Criteria that specify mission and functional area unit proficiency standards for combat, combat support, and combat service support units. They include tasks, conditions, standards, evaluator instruction, and key indicators. CTS are found within collective training events in T&R Manuals.

Combat Readiness Cycle. The combat readiness cycle depicts the relationships within the building block approach to training. The combat readiness cycle progresses from T&R Manual individual core skills training, to the accomplishment of collective training events, and finally, to a unit's participation in a contingency or actual combat. The combat readiness cycle demonstrates the relationship of core capabilities to unit combat readiness. Individual core skills training and the training of collective events lead to unit proficiency and the ability to accomplish the unit's stated mission.

Combat Readiness Percentage (CRP). The CRP is a quantitative numerical value used in calculating collective training readiness based on the E-Coded events that support the unit METL. CRP is a concise measure of unit training accomplishments. This numerical value is only a snapshot of training readiness at a specific time. As training is conducted, unit CRP will continuously change.

Condition. The condition describes the training situation or environment under which the training event or task will take place. Expands on the information in the title by identifying when, where and why the event or task will occur and what materials, personnel, equipment, environmental provisions, and safety constraints must be present to perform the event or task in a real-world environment. Commanders can modify the conditions of the event to best prepare their Marines to accomplish the assigned mission (e.g. in a desert environment; in a mountain environment; etc.).

Core Competency. Core competency is the comprehensive measure of a unit's ability to accomplish its assigned MET. It serves as the foundation of the T&R Program. Core competencies are those unit core capabilities and individual core skills that support the commander's METL and T/O mission statement. Individual competency is exhibited through demonstration of proficiency in specified core tasks and core plus tasks. Unit proficiency is measured through collective tasks.

Core Capabilities. Core capabilities are the essential functions a unit must be capable of performing during extended contingency/combat operations. Core unit capabilities are based upon mission essential tasks derived from operational plans; doctrine and established tactics; techniques and procedures.

Core Plus Capabilities. Core plus capabilities are advanced capabilities that are environment, mission, or theater specific. Core plus capabilities may entail high-risk, high-cost training for missions that are less likely to be assigned in combat.

Core Plus Skills. Core plus skills are those advanced skills that are environment, mission, rank, or billet specific. 2000-level training is designed to make Marines proficient in core skills in a specific billet or at a specified rank at the Combat Ready level. 3000-8000-level training produces combat leaders and fully qualified section members at the Combat Qualified level. Marines trained at the Combat Qualified level are those the commanding officer feels are capable of accomplishing unit-level missions and of directing the actions of subordinates. Many core plus tasks are learned via MOJT, while others form the base for curriculum in career level MOS courses taught by the formal school.

D

Defense Readiness Reporting System (DRRS). A comprehensive readiness reporting system that evaluates readiness on the basis of the actual missions and capabilities assigned to the forces. It is a capabilities-based, adaptive, near real-time reporting system for the entire Department of Defense.

**Deferred Event.** A T&R event that a commanding officer may postpone when in his or her judgment, a lack of logistic support, ammo, ranges, or other training assets requires a temporary exemption. CRP cannot be accrued for deferred "E-Coded" events.

**Delinquent Event.** An event becomes delinquent when a unit exceeds the sustainment interval for that particular event. The individual or unit must update the delinquent event by first performing all prerequisite events. When the unit commander deems that performing all prerequisite is unattainable, then the delinquent event will be re-demonstrated under the supervision of the appropriate evaluation authority.

Е

**E-Coded Event.** An "E-Coded" event is a collective T&R event that is a noted indicator of capability or, a noted Collective skill that contributes to the unit's ability to perform the supported MET. As such, only "E-Coded" events are assigned a CRP value and used to calculate a unit's CRP.

**Evaluation.** Evaluation is a continuous process that occurs at all echelons, during every phase of training and can be both formal and informal. Evaluations ensure that Marines and units are capable of conducting their combat mission. Evaluation results are used to reallocate resources, reprioritize the training plan, and plan for future training.

Event (Training). 1) An event is a significant training occurrence that is identified, expanded and used as a building block and potential milestone for a unit's training. An event may include formal evaluations. 2) An event within the T&R Program can be an individual training evolution, a collective training evolution or both. Through T&R events, the unit commander ensures that individual Marines and the unit progress from a combat capable status to a Fully Combat Qualified (FCQ) status.

**Event Component**. The major procedures (i.e., actions) that must occur to perform a Collective Event to standard.

Exercise Commander (EC). The Commanding General, Marine Expeditionary Force or his appointee will fill this role, unless authority is delegated to the respective commander of the Division, Wing, or FSSG. Responsibilities and functions of the EC include: 1) designate unit(s) to be evaluated, 2) may designate an exercise director, 3) prescribe exercise objectives and T&R events to be evaluated, 4) coordinate with commands or agencies external to the Marine Corps and adjacent Marine Corps commands, when required.

Exercise Director (ED). Designated by the EC to prepare, conduct, and report all evaluation results. Responsibilities and functions of the ED include: 1) Publish a letter of instruction (LOI) that: delineates the T&R events to be evaluated, establishes timeframe of the exercise, lists responsibilities of various elements participating in the exercise, establishes safety requirements/guidelines, and lists coordinating instructions. 2) Designate the TEC and TECG to operate as the central control agency for the exercise. 3) Assign evaluators, to include the senior evaluator, and ensure that those evaluators are properly trained. 4) Develop the general exercise scenario taking into account any objectives/events prescribed by the EC. 5) Arrange for all resources to include: training areas, airspace, aggressor forces, and other required support.

м

Marine Corps Ground Training and Readiness (T&R) Program. The T&R Program is the Marine Corps' primary tool for planning and conducting training, for planning and conducting training evaluation, and for assessing training readiness. The program will provide the commander with standardized programs of instruction for units within the ground combat, combat support, and combat service support communities. It consolidates the ITS, CTS, METL and other individual and unit training management tools. T&R is a program of standards that systematizes commonly accepted skills, is open to innovative change, and above all, tailors the training effort to the unit's mission. Further, T&R serves as a training guide and provides commanders an immediate assessment of unit combat readiness by assigning a CRP to key training events. In short, the T&R Program is a building block approach to training that maximizes flexibility and produces the best-trained Marines possible.

Mission Essential Task(s) MET(s). A MET is a collective task in which an organization must be proficient in order to accomplish an appropriate portion of its wartime mission(s). MET listings are the foundation for the T&R manual; all events in the T&R manual support a MET.

Mission Essential Task List (METL). Descriptive training document that provides units a clear, war fighting focused description of collective actions necessary to achieve wartime mission proficiency. The service-level METL, that which is used as the foundation of the T&R manual, is developed using Marine Corps doctrine, operational plans, T/Os, UJTL, UNTL, and MCTL. For community based T&R manuals, an occupational field METL is developed to focus the community's collective training standards. Commanders develop their unit METL from the service-level METL, operational plans, contingency plans, and SOPs.

0

Operational Readiness (DOD, NATO). OR is the capability of a unit/formation, ship, weapon system, or equipment to perform the missions or functions for which it is organized or designed. May be used in a general sense or to express a level or degree of readiness.

P

**Prerequisite Event**. Prerequisites are the academic training and/or T&R events that must be completed prior to attempting the event.

R

Readiness (DOD). Readiness is the ability of U.S. military forces to fight and meet the demands of the national military strategy. Readiness is the synthesis of two distinct but interrelated levels: a) Unit readiness—The ability to provide capabilities required by combatant commanders to execute assigned missions. This is derived from the ability of each unit to deliver the outputs for which it was designed. b) Joint readiness—The combatant commander's ability to integrate and synchronize ready combat and support forces to execute assigned missions.

S

**Section Skill Tasks.** Section skills are those competencies directly related to unit functioning. They are group rather than individual in nature, and require participation by a section (S-1, S-2, S-3, etc).

Simulation Training. Simulators provide the additional capability to develop and hone core and core plus skills. Accordingly, the development of simulator training events for appropriate T&R syllabi can help maintain valuable combat resources while reducing training time and cost. Therefore, in cases where simulator fidelity and capabilities are such that simulator training closely matches that of actual training events, T&R Manual developers may include the option of using simulators to accomplish the training. CRP credit will be earned for E-Coded simulator events based on assessment of relative training event performance.

Standard. A standard is a statement that establishes criteria for how well a task or learning objective must be performed. The standard specifies how well, completely, or accurately a process must be performed or product produced. For higher-level collective events, it describes why the event is being done and the desired end-state of the event. Standards become more specific for lower-level events and outline the accuracy, time limits, sequencing, quality, product, process, restrictions, etc., that indicate the minimum acceptable level of performance required of the event. At a minimum, both collective and individual training standards consist of a task, the condition under which the task is to be performed, and the evaluation criteria that will be used to verify that the task has been performed to a satisfactory level.

Sustainment Training. Periodic retraining or demonstration of an event required maintaining the minimum acceptable level of proficiency or

capability required to accomplish a training objective. Sustainment training goes beyond the entry-level and is designed to maintain or further develop proficiency in a given set of skills.

Systems Approach to Training (SAT). An orderly process for analyzing, designing, developing, implementing, and evaluating a unit's training program to ensure the unit, and the Marines of that unit acquire the knowledge and skills essential for the successful conduct of the unit's wartime missions.

Т

**Training Task**. This describes a direct training activity that pertains to an individual Marine. A task is composed of 3 major components: a description of what is to be done, a condition, and a standard.

Technical Exercise Controller (TEC). The TEC is appointed by the ED, and usually comes from his staff or a subordinate command. The TEC is the senior evaluator within the TECG and should be of equal or higher grade than the commander(s) of the unit(s) being evaluated. The TEC is responsible for ensuring that the evaluation is conducted following the instructions contained in this order and MCO 1553.3A. Specific T&R manuals are used as the source for evaluation criteria.

Tactical Exercise Control Group (TECG). A TECG is formed to provide subject matter experts in the functional areas being evaluated. The benefit of establishing a permanent TECG is to have resident, dedicated evaluation authority experience, and knowledgeable in evaluation technique. The responsibilities and functions of the TECG include: 1) developing a detailed exercise scenario to include the objectives and events prescribed by the EC/ED in the exercise LOI; 2) conducting detailed evaluator training prior to the exercise; 3) coordinating and controlling role players and aggressors; 4) compiling the evaluation data submitted by the evaluators and submitting required results to the ED; 5) preparing and conducting a detailed exercise debrief for the evaluated unit(s).

**Training Plan.** Training document that outlines the general plan for the conduct of individual and collective training in an organization for specified periods of time.

U

Unit CRP. Unit CRP is a percentage of the E-Coded collective events that support the unit METL accomplished by the unit. Unit CRP is the average of all MET CRP.

Unit Evaluation. All units in the Marine Corps must be evaluated, either formally or informally, to ensure they are capable of conducting their combat mission. Informal evaluations should take place during all training events. The timing of formal evaluations is critical and should, when appropriate, be directly related to the units' operational deployment cycle. Formal evaluations should take place after the unit has been staffed with the majority of its personnel, has had sufficient time to train to individual and collective standards, and early enough in the training cycle so there is sufficient time to correctly identified weaknesses prior to deployment. All

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combat units and units' task organized for combat require formal evaluations prior to operational deployments.

Unit Training Management (UTM). Unit training management is the use of the SAT and Marine Corps training principles in a manner that maximizes training results and focuses the training priorities of the unit on its wartime mission. UTM governs the major peacetime training activity of the Marine Corps and applies to all echelons of the Total Force.

W

**Waived Event.** An event that is waived by a commanding officer when in his or her judgment, previous experience or related performance satisfies the requirement of a particular event.

## ENG & UTIL T&R MANUAL

### APPENDIX C

### CLASS V REQUIRED FOR ENGINEER TRAINING

The CLASS V Supplies listed in this appendix are required for individual and collective level training events.

Table C001 lists types of Class V supplies employed by Engineer personnel.

Table C002 contains allocations employed by Engineer personnel by MOS for sustainment/proficiency of individual events. The quantities of ammunition, explosives and pyrotechnics are sufficient to conduct one training evolution.

**Table C003** contains the Course of Fire allocations, per crew served weapons system for sustainment/proficiency training.

**Table C004** contains allocations, for Engineer units crew served weapons system sustainment/proficiency training.

**Table C005** contains Combat Assault Battalion allocations for engineer personnel to accomplish unit sustainment/proficiency training.

**Table C006** contains Combat Engineer Battalion allocations to accomplish unit sustainment/proficiency training.

**Table C007** contains Direct Support Combat Logistics Battalion allocations for engineer personnel to accomplish unit sustainment/proficiency training.

**Table C008** contains Engineer Support Battalion allocations to accomplish unit sustainment/proficiency training.

| C001. CLA | SS V LISTING FOR ENGINEERS & CREW SERVED WEAPONS PERSONNEL |
|-----------|------------------------------------------------------------|
| DODIC     | NOMENCLATURE                                               |
| A011      | Cartridge, 12 Gauge #00 Buckshot M162                      |
| A023      | Cartridge, 12 Gauge 1 Ounce Slug Commercial                |
| A024      | Cartridge, 12 Gauge Lockbuster                             |
| A064      | Cartridge, 5.56mm 4 Ball M855/1 Tracer M856 Linked         |
| A131      | Cartridge, 7.62mm 4 Ball M80/1 Tracer M62 Linked           |
| A135      | Cartridge, 7.62mm Dummy M63                                |
| A555      | Cartridge, Cal .50 Ball M33 Linked (M2 Links)              |
| A560      | Cartridge, Cal .50 Dummy M2                                |
| A576      | Cartridge, Cal .50 4 API M8/1 API-T M20 Linked             |
| AA54      | Cartridge, 12 Gauge, Breaching, M1030                      |
| AX10      | Cartridge, 9mm Dummy MK218                                 |
| AX11      | Cartridge, 9mm Spotting Rifle MK217 Mod 0                  |
| AX14      | Primer, Percussion 12 Gauge W209                           |
| B472      | Cartridge, 40mm Dummy M922                                 |
| B542      | Cartridge, 40mm HEDP M430/M430A1 Linked                    |
| BA21      | Cartridge, 40mm Practice (Day/Night) MK281 Mod 1 Linked    |
| G940      | Grenade, Hand Green Smoke M18                              |

| G945 | Grenade, Hand Yellow Smoke M18                                                        |
|------|---------------------------------------------------------------------------------------|
| G982 | Grenade, Hand Practice Smoke TA M83                                                   |
| HX05 | Rocket, 83mm HE Dual mode (SMAW)                                                      |
| HX07 | Rocket, 83mm HEAA Practice MK7 Mod 0                                                  |
| J007 | Mine, Antipersonnel M18A1 with Non-Electric Mini Shock Tube                           |
| J143 | Rocket Motor, 5-inch MK22 Mod 4                                                       |
| K143 | Mine, APERS (Claymore)                                                                |
| L312 | Signal, Illumination Ground White Star Parachute M127A1                               |
| L314 | Signal, Illumination Ground Green Star Cluster M125A1                                 |
| L495 | Flare, Surface Trip M49/A1 Series                                                     |
| L594 | Simulator, Projectile Ground Burst M115A2                                             |
| L594 | Simulator, Projectile Ground Burst MITSAZ  Simulator, Explosive Booby Trap Flash M117 |
|      | Simulator, Noise Cartridge SMAW                                                       |
| LX21 |                                                                                       |
| M023 | Charge, Demo Block M112 1-1/4 pound C-4                                               |
| M028 | Demo Kit, Bangalore Torpedo M1A2                                                      |
| M030 | Charge, Demo Block TNT 1/4-Pound                                                      |
| M032 | Charge, Demo Block TNT 1-Pound                                                        |
| M039 | Charge, Demo Cratering 40-Pound                                                       |
| M130 | Cap, Blasting Electric M6                                                             |
| M131 | Cap, Blasting Non-Electric M7                                                         |
| M327 | Coupling Base, Firing Device with Primer                                              |
| M420 | Charge, Demo Shaped M2 Series 15-Pound                                                |
| M421 | Charge, Demo Shaped M3 Series 40-Pound                                                |
| M456 | Cord, Detonating PETN Type I Class E                                                  |
| M591 | Dynamite, Military M1                                                                 |
| M670 | Fuse, Blasting Time M700                                                              |
| M757 | Charge, Assembly Demo M183 Comp C-4                                                   |
| M766 | Igniter, Time Fuse Blasting M60                                                       |
| М913 | Charge, Demo High Explosive Linear M58A4                                              |
| М914 | Charge, Demo Inert Linear M68A2                                                       |
| М982 | Charge, Demo Sheet 0.166 Inch Thick                                                   |
| ML03 | Firing Device, Demo Multi-Purpose M142                                                |
| ML47 | Cap, Blasting Non-Electric XM/M11                                                     |
| MM30 | Charge, Flexible 20 Gram PETN MK140 Mod 0                                             |
| MM44 | Charge, Demo FLSC 75 Gr/Ft                                                            |
| MM45 | Charge, Demo FLSC 125 Gr/Ft                                                           |
| MM46 | Charge, Demo FLSC 225 Gr/Ft                                                           |
| MM47 | Charge, Demo FLSC 400 Gr/Ft                                                           |
| MM48 | Charge, Demo FLSC 600 Gr/Ft                                                           |
| MM56 | Det, Percussion 175ms Delay                                                           |
| MN08 | Igniter, Time Blasting Fuse with Shock Tube Capability M81                            |
| MN14 | Firing Device, Dual Mode MK54                                                         |
| MN52 | Detonator, Percussion, Non-Electric MK154 Mod 0                                       |
| MN79 | Mine, Antipersonnel Obstacle Breaching System MK7 Mod 1                               |
| MN88 | Cap, Blasting, Non-Electric, M21 w/ 500 ft. Mini tube                                 |
|      | Cap, Blasting, Non-Electric, M21 W/ 500 It. Mini tube                                 |
| MN90 | cap, brasting, non-Erectric, M23 W/ 1000 It. MINI tube                                |

| C002. | ENGINEER | INDIVIDUAL EVENT | CLASS | V ALLOCATIONS | 5      |       |
|-------|----------|------------------|-------|---------------|--------|-------|
| MOS   | DODIC    | EVENT            | QTY   | SUSTAINMENT   | ANNUAL | DODIC |
|       |          |                  |       | INTERVAL      | TOTAL  | TOTAL |
| 1302  | A011     | 1302-MOBL-1006   | 10    | SA            | 20     |       |
| 1371  | A011     | 1371-MOBL-2013   | 6     | SA            | 12     |       |

| 1       |       | T                                |    |          |     | Τ  |
|---------|-------|----------------------------------|----|----------|-----|----|
|         |       | 1371-MOBL-2014                   | 6  | SA       | 12  |    |
|         |       | 1371-MOBL-2015                   | 10 | A        | 10  |    |
|         | A011  |                                  |    |          |     | 54 |
| 1200    | A023  | 1202 MODI 1006                   | 0  | C 7      | 1.6 |    |
| 1302    | A023  | 1302-MOBL-1006                   | 3  | SA       | 16  |    |
| 1371    | AU23  | 1371-MOBL-2013                   | 3  | SA       | 6   |    |
|         | A023  | 1371-MOBL-2014                   | 3  | SA       | 0   | 28 |
|         | A023  |                                  |    |          |     | 20 |
| 1302    | AA54  | 1302-MOBL-1006                   | 12 | SA       | 24  |    |
| 1371    | AA54  | 1371-MOBL-2014                   | 3  | SA       | 6   |    |
| 1371    |       | 1371-MOBL-2016                   | 6  | SA       | 12  |    |
|         | AA54  | 1371 11022 2010                  |    | <u> </u> |     | 42 |
|         |       |                                  |    |          |     |    |
| 1371    | AX10  | 1371-MOBL-1006                   | 3  | SA       | 6   | 6  |
| _       |       |                                  | _  | ·-       |     |    |
| 1371    | AX11  | 1371-MOBL-1006                   | 6  | SA       | 12  | 12 |
|         |       |                                  |    |          |     |    |
| 1302    | AX14  | 1302-MOBL-1006                   | 12 | SA       | 24  |    |
| 1371    | AX14  | 1371-DEMO-2002                   | 4  | Q        | 16  |    |
|         |       | 1371-DEMO-2007                   | 2  | SA       | 4   |    |
|         |       | 1371-DEMO-2008                   | 2  | SA       | 4   |    |
|         |       | 1371-DEMO-2009                   | 2  | SA       | 4   |    |
|         |       | 1371-DEMO-2010                   | 2  | SA       | 4   |    |
|         |       | 1371-DEMO-2011                   | 2  | SA       | 4   |    |
|         |       | 1371-DEMO-2012                   | 2  | SA       | 4   |    |
|         |       | 1371-DEMO-2013                   | 2  | SA       | 4   |    |
|         |       | 1371-DEMO-2014                   | 2  | A        | 2   |    |
|         | AX14  |                                  |    |          |     | 70 |
|         |       |                                  |    |          |     |    |
| 1371    | G940  | 1371-MOBL-1001                   | 1  | Q        | 4   |    |
|         |       | 1371-MOBL-1003                   | 1  | SA       | 2   |    |
|         |       | 1371-CMOB-2003                   | 2  | SA       | 4   |    |
|         |       | 1371-MOBL-2012                   | 2  | SA       | 4   |    |
|         | G940  |                                  |    |          |     | 14 |
| 1 2 7 1 | G0.4F | 1271 MODI 1001                   | 1  | 0        | 4   |    |
| 1371    | G945  | 1371-MOBL-1001                   | 1  | Q        | 4   |    |
|         |       | 1371-MOBL-1003<br>1371-CMOB-2003 | 2  | SA       | 4   |    |
|         |       | 1371-CMOB-2003                   | 2  | SA<br>SA | 4   |    |
|         | G945  | T2 / T - MODII - 70 T 7          | ۷  | AG       | 4   | 14 |
|         | G.743 |                                  |    |          |     |    |
| 1371    | G982  | 1371-MOBL-1001                   | 1  | Q        | 4   |    |
| 10/I    | 3752  | 1371-MOBL-1001                   | 1  | SA       | 2   |    |
|         |       | 1371-MOBL-1003                   | 2  | SA       | 4   |    |
|         | G982  | 13/1 HODE 2012                   | 4  | )A       | 1   | 10 |
|         |       |                                  |    |          |     |    |
| 1371    | HX05  | 1371-MOBL-1006                   | 1  | SA       | 2   |    |
| _2.1    |       | 1371-MOBL-2012                   | 2  | SA       | 4   |    |
|         | HX05  |                                  | -  |          | _   | 6  |
|         |       |                                  |    |          |     |    |
| 1371    | HX07  | 1371-MOBL-1006                   | 1  | SA       | 2   | 2  |
|         |       |                                  |    |          |     |    |

|          |              | 1                                |        | Ī      | 1        | 1  |
|----------|--------------|----------------------------------|--------|--------|----------|----|
| 1 2 7 1  | J007         | 1271 GMOD 1002                   | 1      |        | 4        | 4  |
| 1371     | 3007         | 1371-CMOB-1003                   | 1      | Q      | 4        | 4  |
| 1371     | J143         | 1371-MOBL-2010                   | 1      | Q      | 4        |    |
| 13/1     | 0113         | 1371-MOBL-2012                   | 1      | SA     | 2        |    |
|          | J143         | 13/1 MODE 2012                   |        | DA     | 2        | 6  |
|          |              |                                  |        |        |          |    |
| 1371     | K143         | 1371-CMOB-1003                   | 1      | Q      | 4        | 4  |
|          |              |                                  |        | ~      |          |    |
| 1371     | L312         | 1371-MOBL-2012                   | 2      | SA     | 4        | 4  |
|          |              |                                  |        |        |          |    |
| 1371     | L314         | 1371-MOBL-2012                   | 2      | SA     | 4        | 4  |
|          |              |                                  |        |        |          |    |
| 1371     | L495         | 1371-CMOB-1002                   | 1      | SA     | 2        |    |
|          |              | 1371-CMOB-2003                   | 2      | SA     | 4        |    |
|          | L495         |                                  |        |        |          | 6  |
| 1 2 17 1 | T E O 4      | 1271 ONOD 2002                   |        | C 3    | 4        |    |
| 1371     | L594         | 1371-CMOB-2003                   | 2      | SA     | 4        | 4  |
| 1371     | L598         | 1371-CMOB-2003                   | 2      | C 7    | 4        | 4  |
| 13/1     | пээо         | 13/1-CMOB-2003                   |        | SA     | 4        |    |
| 1371     | LX21         | 1371-MOBL-1006                   | 1      | SA     | 2        | 2  |
| 1371     | 11121        | 1371 MODE 1000                   |        | DA     | 2        |    |
| 1302     | M023         | 1302-DEMO-1002                   | 1      | Q      | 4        |    |
| 1371     | M023         | 1371-DEMO-1001                   | 1      | Q      | 4        |    |
|          |              | 1371-DEMO-2001                   | 10     | Q      | 40       |    |
|          |              | 1371-MOBL-1001                   | 1      | Q      | 4        |    |
|          | M023         |                                  |        |        |          | 52 |
|          |              |                                  |        |        |          |    |
| 1302     | M028         | 1302-DEMO-1002                   | 1      | Q      | 4        |    |
| 1371     | M028         | 1371-MOBL-1001                   | 1      | Q      | 4        |    |
|          |              | 1371-MOBL-2012                   | 1      | SA     | 2        | 10 |
|          | M028         |                                  |        |        |          | 10 |
| 1200     | 340.20       | 1200 DEMO 1000                   | 1      |        | 4        |    |
| 1302     | M030<br>M030 | 1302-DEMO-1002                   | 1<br>1 | Q      | 4        |    |
| 13/1     | H020         | 1371-DEMO-1001<br>1371-DEMO-1002 | 1      | Q<br>Q | 4        |    |
|          | M030         | 13/1 DEMO 1002                   |        | ×      | <u> </u> | 12 |
|          | 11000        |                                  |        |        |          |    |
| 1302     | M032         | 1302-DEMO-1002                   | 1      | Q      | 4        |    |
|          |              | 1302-DEMO-1003                   | 10     | Q      | 40       |    |
| 1371     | M032         | 1371-DEMO-1001                   | 1      | Q      | 4        |    |
|          |              | 1371-DEMO-1002                   | 1      | Q      | 4        |    |
|          |              | 1371-DEMO-2001                   | 10     | Q      | 40       |    |
|          | M032         |                                  |        |        |          | 92 |
|          |              |                                  |        |        |          |    |
| 1302     | M039         | 1302-DEMO-1002                   | 1      | Q      | 4        |    |
| 1371     | м039         | 1371-DEMO-1001                   | 1      | Q      | 4        |    |
|          | MO 2.0       | 1371-DEMO-1002                   | 1      | Q      | 4        | 10 |
|          | M039         |                                  |        |        |          | 12 |
| 1202     | M130         | 1202_DEMO 1002                   | 2      |        | 1.0      |    |
| 1302     | MT20         | 1302-DEMO-1002                   | 3      | Q      | 12       |    |

|      |       | 1302-DEMO-1003                          | 14 | Q  | 56 |     |
|------|-------|-----------------------------------------|----|----|----|-----|
|      |       | 1302-MOBL-1006                          | 8  | SA | 16 |     |
| 1371 | M130  | 1371-DEMO-1001                          | 1  | Q  | 4  |     |
|      |       | 1371-DEMO-1002                          | 4  | Q  | 16 |     |
|      |       | 1371-MOBL-1001                          | 10 | Q  | 40 |     |
|      |       | 1371-MOBL-1003                          | 3  | SA | 6  |     |
|      |       | 1371-CMOB-1002                          | 1  | SA | 2  |     |
|      |       | 1371-DEMO-2001                          | 8  | Q  | 32 |     |
|      |       | 1371-DEMO-2002                          | 10 | Q  | 40 |     |
|      |       | 1371-DEMO-2007                          | 1  | SA | 2  |     |
|      |       | 1371-DEMO-2008                          | 2  | SA | 4  |     |
|      |       | 1371-DEMO-2010                          | 2  | SA | 4  |     |
|      |       | 1371-DEMO-2011                          | 2  | SA | 4  |     |
|      |       | 1371-DEMO-2012                          | 2  | SA | 4  |     |
|      |       | 1371-MOBL-2012                          | 6  | SA | 12 |     |
|      |       | 1371-DEMO-2013                          | 2  | SA | 4  |     |
|      |       | 1371-DEMO-2014                          | 2  | A  | 2  |     |
|      | M130  |                                         |    |    |    | 260 |
|      |       |                                         |    |    |    |     |
| 1302 | M131  | 1302-DEMO-1002                          | 5  | Q  | 20 |     |
|      |       | 1302-DEMO-1003                          | 14 | Q  | 56 |     |
|      |       | 1302-MOBL-1006                          | 6  | SA | 12 |     |
|      |       | 1302-MOBL-1010                          | 4  | SA | 8  |     |
| 1371 | M131  | 1371-DEMO-1001                          | 1  | Q  | 4  |     |
|      |       | 1371-DEMO-1002                          | 12 | Q  | 48 |     |
|      |       | 1371-MOBL-1001                          | 10 | Q  | 40 |     |
|      |       | 1371-MOBL-1003                          | 1  | SA | 2  |     |
|      |       | 1371-CMOB-1002                          | 1  | SA | 2  |     |
|      |       | 1371-DEMO-2001                          | 8  | Q  | 32 |     |
|      |       | 1371-DEMO-2002                          | 10 | Q  | 40 |     |
|      |       | 1371-DEMO-2011                          | 2  | SA | 4  |     |
|      |       | 1371-DEMO-2012                          | 2  | SA | 4  |     |
|      |       | 1371-MOBL-2012                          | 6  | SA | 12 |     |
|      |       | 1371-DEMO-2013                          | 2  | SA | 4  |     |
|      |       | 1371-DEMO-2014                          | 2  | A  | 2  |     |
|      |       | 1371-MOBL-2023                          | 4  | SA | 8  |     |
|      | M131  |                                         |    |    |    | 298 |
|      |       | 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 |    |    |    |     |
| 1371 | M327  | 1371-CMOB-1003                          | 1  | Q  | 4  |     |
|      |       | 1371-CMOB-2003                          | 4  | SA | 8  |     |
|      | M327  |                                         |    |    |    | 12  |
| 1000 | 37400 | 1200                                    | -1 | _  | 4  |     |
| 1302 | M420  | 1302-DEMO-1002                          | 1  | Q  | 4  |     |
| 1371 | M420  | 1371-DEMO-1001                          | 1  | Q  | 4  |     |
|      | 37400 | 1371-DEMO-1002                          | 1  | Q  | 4  | 10  |
|      | M420  |                                         |    |    |    | 12  |
| 1222 | 37401 | 1200 PETC 1000                          |    |    | 4  |     |
| 1302 | M421  | 1302-DEMO-1002                          | 1  | Q  | 4  |     |
| 1371 | M421  | 1371-DEMO-1001                          | 1  | Q  | 4  |     |
|      | 20401 | 1371-DEMO-1002                          | 1  | Q  | 4  | 1.0 |
|      | M421  |                                         |    |    |    | 12  |
|      |       |                                         |    |    |    |     |

| 1302 | M456         | 1302-DEMO-1002                                                                                           | 85                                 | Q                               | 340                                  |       |
|------|--------------|----------------------------------------------------------------------------------------------------------|------------------------------------|---------------------------------|--------------------------------------|-------|
|      |              | 1302-DEMO-1003                                                                                           | 500                                | Q                               | 2000                                 |       |
|      |              | 1302-MOBL-1006                                                                                           | 200                                | SA                              | 400                                  |       |
|      |              | 1302-MOBL-1010                                                                                           | 10                                 | SA                              | 20                                   |       |
| 1371 | M456         | 1371-DEMO-1001                                                                                           | 35                                 | Q                               | 105                                  |       |
|      |              | 1371-DEMO-1002                                                                                           | 350                                | Q                               | 1400                                 |       |
|      |              | 1371-MOBL-1001                                                                                           | 300                                | Q                               | 1200                                 |       |
|      |              | 1371-CMOB-1002                                                                                           | 50                                 | SA                              | 100                                  |       |
|      |              | 1371-CMOB-1003                                                                                           | 500                                | Q                               | 2000                                 |       |
|      |              | 1371-MOBL-1003                                                                                           | 350                                | SA                              | 700                                  |       |
|      |              | 1371-DEMO-2001                                                                                           | 250                                | Q                               | 1000                                 |       |
|      |              | 1371-CMOB-2003                                                                                           | 350                                | SA                              | 700                                  |       |
|      |              | 1371-DEMO-2007                                                                                           | 5                                  | SA                              | 10                                   |       |
|      |              | 1371-DEMO-2008                                                                                           | 5                                  | SA                              | 10                                   |       |
|      |              | 1371-DEMO-2009                                                                                           | 12                                 | SA                              | 24                                   |       |
|      |              | 1371-DEMO-2010                                                                                           | 96                                 | SA                              | 192                                  |       |
|      |              | 1371-DEMO-2010                                                                                           | 18                                 | SA                              | 36                                   |       |
|      |              | 1371-DEMO-2011                                                                                           | 33                                 | SA                              | 66                                   |       |
|      |              | 1371-MOBL-2012                                                                                           | 1500                               | SA                              | 3000                                 |       |
|      |              | 1371-DEMO-2013                                                                                           | 32                                 | SA                              | 34                                   |       |
|      |              | 1371-DEMO-2013                                                                                           | 15                                 | A                               | 15                                   |       |
|      |              | 1371-DEMO-2014<br>1371-MOBL-2023                                                                         | 10                                 | SA                              | 20                                   |       |
|      | M456         | 13/1-MOPU-2023                                                                                           | 10                                 | SA                              | 20                                   | 13372 |
|      | M430         |                                                                                                          |                                    |                                 |                                      | 13372 |
| 1302 | M591         | 1302-DEMO-1002                                                                                           | 2                                  | Q                               | 8                                    |       |
| 1371 | M591         | 1371-DEMO-1001                                                                                           | 2                                  | Q                               | 8                                    |       |
| 13/1 | 11331        | 1371-DEMO-1001                                                                                           | 1                                  | Q                               | 4                                    |       |
|      |              | 1371-CMOB-1002                                                                                           | 1                                  | SA                              | 2                                    |       |
|      | M591         | 1371 CMOD 1002                                                                                           |                                    | DA                              | 2                                    | 22    |
|      | 11331        |                                                                                                          |                                    |                                 |                                      | 22    |
| 1302 | M670         | 1302-DEMO-1002                                                                                           | 40                                 | Q                               | 160                                  |       |
| 1302 | 110 / 0      | 1302 DEMO-1002                                                                                           | 50                                 | O O                             | 200                                  |       |
|      |              | 1302-MOBL-1006                                                                                           | 24                                 | SA                              | 48                                   |       |
|      |              | 1302-MOBL-1010                                                                                           | 500                                | SA                              | 1000                                 |       |
| 1371 | M670         | 1371-DEMO-1001                                                                                           | 10                                 | Q                               | 40                                   |       |
| 1371 | 110 7 0      | 1371-DEMO-1001                                                                                           | 350                                | Q                               | 1400                                 |       |
|      |              | 1371-MOBL-1001                                                                                           | 200                                | Q                               | 800                                  |       |
|      |              | 1371-MOBL-1001                                                                                           | 10                                 | <br>SA                          | 20                                   |       |
|      |              | 1371-MOBE-1003                                                                                           | 25                                 | SA                              | 50                                   |       |
|      |              | 1371-CMOB-1002<br>1371-DEMO-2001                                                                         | 50                                 | Q                               | 200                                  |       |
|      |              |                                                                                                          | J U                                | V                               | 200                                  |       |
|      |              | 1371_DEMO_2002                                                                                           | 50                                 | $\cap$                          | 200                                  |       |
|      |              | 1371-DEMO-2002                                                                                           | 50                                 | Q                               | 200                                  |       |
|      |              | 1371-DEMO-2011                                                                                           | 12                                 | SA                              | 24                                   |       |
|      |              | 1371-DEMO-2011<br>1371-DEMO-2012                                                                         | 12<br>12                           | SA<br>SA                        | 24<br>24                             |       |
|      |              | 1371-DEMO-2011<br>1371-DEMO-2012<br>1371-DEMO-2013                                                       | 12<br>12<br>12                     | SA<br>SA<br>SA                  | 24<br>24<br>24                       |       |
|      |              | 1371-DEMO-2011<br>1371-DEMO-2012<br>1371-DEMO-2013<br>1371-DEMO-2014                                     | 12<br>12<br>12<br>12               | SA<br>SA<br>SA<br>A             | 24<br>24<br>24<br>12                 |       |
|      |              | 1371-DEMO-2011<br>1371-DEMO-2012<br>1371-DEMO-2013<br>1371-DEMO-2014<br>1371-MOBL-2012                   | 12<br>12<br>12<br>12<br>500        | SA<br>SA<br>SA<br>A<br>SA       | 24<br>24<br>24<br>12<br>1000         |       |
|      | M670         | 1371-DEMO-2011<br>1371-DEMO-2012<br>1371-DEMO-2013<br>1371-DEMO-2014                                     | 12<br>12<br>12<br>12               | SA<br>SA<br>SA<br>A             | 24<br>24<br>24<br>12                 | 6202  |
|      | M670         | 1371-DEMO-2011<br>1371-DEMO-2012<br>1371-DEMO-2013<br>1371-DEMO-2014<br>1371-MOBL-2012                   | 12<br>12<br>12<br>12<br>500        | SA<br>SA<br>SA<br>A<br>SA       | 24<br>24<br>24<br>12<br>1000         | 6202  |
| 1200 |              | 1371-DEMO-2011<br>1371-DEMO-2012<br>1371-DEMO-2013<br>1371-DEMO-2014<br>1371-MOBL-2012<br>1371-MOBL-2023 | 12<br>12<br>12<br>12<br>500<br>500 | SA<br>SA<br>SA<br>A<br>SA<br>SA | 24<br>24<br>24<br>12<br>1000<br>1000 | 6202  |
| 1302 | M670<br>M757 | 1371-DEMO-2011<br>1371-DEMO-2012<br>1371-DEMO-2013<br>1371-DEMO-2014<br>1371-MOBL-2012<br>1371-MOBL-2023 | 12<br>12<br>12<br>12<br>500<br>500 | SA SA A SA SA SA                | 24<br>24<br>24<br>12<br>1000<br>1000 | 6202  |
| 1302 |              | 1371-DEMO-2011<br>1371-DEMO-2012<br>1371-DEMO-2013<br>1371-DEMO-2014<br>1371-MOBL-2012<br>1371-MOBL-2023 | 12<br>12<br>12<br>12<br>500<br>500 | SA<br>SA<br>SA<br>A<br>SA<br>SA | 24<br>24<br>24<br>12<br>1000<br>1000 | 6202  |

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|------|-------|----------------|----|----|-----|----|
| 1371 | M757  | 1371-DEMO-1001 | 1  | Q  | 4   |    |
|      |       | 1371-DEMO-1002 | 1  | Q  | 4   |    |
|      |       | 1371-MOBL-1001 | 1  | Q  | 4   |    |
|      |       | 1371-MOBL-1003 | 2  | SA | 4   |    |
|      |       | 1371-CMOB-1003 | 1  | Q  | 4   |    |
|      |       | 1371-MOBL-2012 | 1  | SA | 2   |    |
|      | M757  |                |    |    |     | 34 |
|      |       |                |    |    |     |    |
| 1371 | M766  | 1371-DEMO-2002 | 11 | Q  | 44  | 44 |
|      |       |                |    |    |     |    |
| 1371 | M913  | 1371-MOBL-2010 | 1  | Q  | 4   |    |
|      |       | 1371-MOBL-2012 | 1  | SA | 2   |    |
|      | M913  |                |    |    |     | 6  |
|      |       |                |    |    |     |    |
| 1371 | M914  | 1371-MOBL-2010 | 1  | Q  | 4   | 4  |
|      |       |                |    |    |     |    |
| 1302 | M982  | 1302-DEMO-1002 | 1  | Q  | 4   |    |
| 1371 | M982  | 1371-DEMO-2002 | 1  | Q  | 4   |    |
|      | M982  |                |    |    |     | 8  |
|      |       |                |    |    |     |    |
| 1302 | ML03  | 1302-DEMO-1003 | 2  | Q  | 8   |    |
|      |       | 1302-MOBL-1006 | 1  | SA | 2   |    |
| 1371 | ML03  | 1371-DEMO-1001 | 2  | Q  | 8   |    |
|      |       | 1371-CMOB-1003 | 1  | Q  | 4   |    |
|      |       | 1371-DEMO-2001 | 5  | Q  | 20  |    |
|      |       | 1371-DEMO-2007 | 1  | SA | 2   |    |
|      |       | 1371-DEMO-2008 | 1  | SA | 2   |    |
|      |       | 1371-DEMO-2009 | 1  | SA | 2   |    |
|      |       | 1371-DEMO-2010 | 1  | SA | 2   |    |
|      |       | 1371-DEMO-2011 | 1  | SA | 2   |    |
|      |       | 1371-DEMO-2012 | 1  | SA | 2   |    |
|      |       | 1371-DEMO-2014 | 1  | A  | 1   |    |
|      |       | 1371-CMOB-2003 | 4  | SA | 8   |    |
|      | ML03  |                |    |    |     | 63 |
|      |       |                |    |    |     |    |
| 1302 | ML47  | 1302-DEMO-1003 | 3  | Q  | 12  |    |
| 1371 | ML47  | 1371-DEMO-1001 | 6  | Q  | 24  |    |
|      |       | 1371-MOBL-1001 | 3  | Q  | 12  |    |
|      |       | 1371-DEMO-2001 | 3  | Q  | 12  |    |
|      |       | 1371-DEMO-2002 | 2  | Q  | 8   |    |
|      | ML47  |                |    |    |     | 68 |
| 1200 | 35700 | 1200           | -  | _  | 0.0 |    |
| 1302 | MN08  | 1302-DEMO-1002 | 5  | Q  | 20  |    |
|      |       | 1302-DEMO-1003 | 10 | Q  | 40  |    |
|      |       | 1302-MOBL-1006 | 4  | SA | 8   |    |
| 1001 | 30700 | 1302-MOBL-1010 | 2  | SA | 4   |    |
| 1371 | MN08  | 1371-DEMO-1001 | 2  | Q  | 8   |    |
|      |       | 1371-DEMO-1002 | 1  | Q  | 4   |    |
|      |       | 1371-MOBL-1001 | 12 | Q  | 48  |    |
|      |       | 1371-MOBL-1003 | 2  | SA | 4   |    |
|      |       | 1371-CMOB-1002 | 1  | SA | 2   |    |
|      |       | 1371-DEMO-2001 | 8  | Q  | 32  |    |

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|---------|-------|----------------------------------|---|----|----|-----|
|         |       | 1371-DEMO-2002                   | 6 | Q  | 24 |     |
|         |       | 1371-DEMO-2011                   | 2 | SA | 4  |     |
|         |       | 1371-DEMO-2012                   | 2 | SA | 4  |     |
|         |       | 1371-DEMO-2013                   | 2 | SA | 4  |     |
|         |       | 1371-DEMO-2014                   | 2 | A  | 2  |     |
|         |       | 1371-MOBL-2012                   | 8 | SA | 16 |     |
|         |       | 1371-MOBL-2023                   | 2 | SA | 4  |     |
|         | MN08  |                                  |   |    |    | 228 |
|         |       |                                  |   |    |    |     |
| 1302    | MM30  | 1302-DEMO-1002                   | 4 | Q  | 16 |     |
| 1371    | MM30  | 1371-DEMO-2011                   | 2 | SA | 4  |     |
|         |       | 1371-DEMO-2013                   | 3 | SA | 6  |     |
|         | MM30  |                                  |   |    |    | 26  |
|         |       |                                  |   |    |    |     |
| 1302    | MM44  | 1302-DEMO-1002                   | 1 | Q  | 4  | 4   |
| 1301    |       | 1302 22110 1002                  |   | ×  | -  |     |
| 1302    | MM45  | 1302-DEMO-1002                   | 1 | Q  | 4  |     |
| 1371    | MM45  | 1371-DEMO-2002                   | 1 | Q  | 4  |     |
| 13/1    | MM45  | 1371 DEMO 2002                   |   | ν  | -  | 8   |
|         | mm43  |                                  |   |    |    | 0   |
| 1 2 7 1 | 30146 | 1271 DEMO 2002                   | 1 | 0  | 4  | 4   |
| 1371    | MM46  | 1371-DEMO-2002                   | 1 | Q  | 4  | 4   |
| 1200    | 20145 | 1200 5740 1000                   | 1 |    | 4  |     |
| 1302    | MM47  | 1302-DEMO-1002                   | 1 | Q  | 4  |     |
| 1371    | MM47  | 1371-DEMO-2002                   | 1 | Q  | 4  |     |
|         | MM47  |                                  |   |    |    | 8   |
|         |       |                                  |   |    |    |     |
| 1302    | MM48  | 1302-DEMO-1002                   | 1 | Q  | 4  |     |
| 1371    | MM48  | 1371-DEMO-2002                   | 1 | Q  | 4  |     |
|         | MM48  |                                  |   |    |    | 8   |
|         |       |                                  |   |    |    |     |
| 1302    | MN14  | 1302-MOBL-1006                   | 2 | SA | 4  |     |
| 1371    | MN14  | 1371-DEMO-1002                   | 3 | Q  | 12 |     |
|         |       | 1371-DEMO-2002                   | 1 | Q  | 4  |     |
|         |       | 1371-MOBL-2012                   | 1 | SA | 2  |     |
|         | MN14  |                                  |   | _  |    | 22  |
|         |       |                                  |   |    |    |     |
| 1302    | MN52  | 1302-DEMO-1002                   | 1 | Q  | 4  |     |
|         |       | 1302-DEMO-1003                   | 5 | Q  | 20 |     |
|         |       | 1302-MOBL-1006                   | 6 | SA | 12 |     |
| 1371    | MN52  | 1371-DEMO-1001                   | 4 | Q  | 16 |     |
|         |       | 1371-MOBL-1001                   | 2 | Q  | 8  |     |
|         |       | 1371-MOBL-1003                   | 4 | SA | 8  |     |
|         |       | 1371-DEMO-2001                   | 5 | Q  | 20 |     |
|         |       | 1371-DEMO-2002                   | 4 | Q  | 16 |     |
|         |       | 1371-DEMO-2002                   | 1 | SA | 2  |     |
|         |       | 1371 DEMO 2007                   | 1 | SA | 2  |     |
|         |       | 1371-DEMO-2008                   | 1 | SA | 2  |     |
|         |       | 1371-DEMO-2009                   | 1 | SA | 2  | 1   |
|         |       | 1371-DEMO-2010<br>1371-DEMO-2011 | 1 | SA | 2  |     |
|         |       |                                  |   |    | 2  |     |
|         |       | 1371-DEMO-2012                   | 1 | SA | 2  |     |
|         |       | 1371-DEMO-2013                   | 1 | SA |    |     |
|         |       | 1371-DEMO-2014                   | 1 | А  | 1  |     |

|      |      | 1371-CMOB-2003 | 4 | SA | 8  |     |
|------|------|----------------|---|----|----|-----|
|      |      |                |   |    | -  |     |
|      |      | 1371-MOBL-2012 | 6 | SA | 12 |     |
|      | MN52 |                |   |    |    | 139 |
|      |      |                |   |    |    |     |
| 1371 | MN79 | 1371-MOBL-2011 | 1 | SA | 2  | 2   |
|      |      |                |   |    |    |     |
| 1302 | MN88 | 1302-DEMO-1003 | 3 | Q  | 12 |     |
|      |      | 1302-MOBL-1010 | 1 | SA | 2  |     |
| 1371 | MN88 | 1371-MOBL-1003 | 3 | SA | 6  |     |
|      |      | 1371-DEMO-2001 | 3 | Q  | 12 |     |
|      |      | 1371-DEMO-2002 | 1 | Q  | 4  |     |
|      |      | 1371-MOBL-2012 | 2 | SA | 4  |     |
|      |      | 1371-MOBL-2023 | 1 | SA | 2  |     |
|      | MN88 |                |   |    |    | 42  |
|      |      |                |   |    |    |     |
| 1302 | MN90 | 1302-MOBL-1010 | 1 | SA | 2  |     |
| 1371 | MN90 | 1371-MOBL-1003 | 3 | SA | 6  |     |
|      |      | 1371-DEMO-2002 | 1 | Q  | 4  |     |
|      |      | 1371-MOBL-2023 | 1 | SA | 2  |     |
|      | MN90 |                |   |    |    |     |

| M249   |                           | DODIC |      |
|--------|---------------------------|-------|------|
| C      | ourse of Fire:            | A064  |      |
|        | asic                      | 192   |      |
| T      | able I                    | 168   |      |
| В      | i-Pod                     | 36    |      |
| Z      | ero Optics                | 30    |      |
| Z      | ero Optics                | 30    |      |
| TOTAL  |                           | 456   |      |
| M240   |                           | DODIC |      |
| 112 10 |                           | A135  | A131 |
| L      | oad                       | 6     |      |
| R      | emedial/Immediate         |       |      |
| A      | ctions                    | 6     |      |
| Z      | ero                       |       | 30   |
| T      | able I                    |       | 168  |
| В      | asic Course               |       | 192  |
| T      | able II                   |       | 252  |
| N      | ight Vision               |       | 144  |
| Z      | ero Optics                |       | 30   |
| Z      | ero Optics                |       | 30   |
| В      | ipod                      |       | 36   |
| TOTAL  |                           | 12    | 882  |
| M2     |                           | A576  | A560 |
|        | oad                       |       | 10   |
|        | emedial/Immediate Actions |       |      |
|        |                           |       | 10   |
| 7.0    | ero                       | 28    |      |

| Γ        |                            | T =   |       |       |
|----------|----------------------------|-------|-------|-------|
|          | 10m Basic TI               | 210   |       |       |
|          | Table II                   | 168   |       |       |
|          | Ring Mount (T IV)          | 168   |       |       |
|          | Zero Optics                | 30    |       |       |
| TOTAL    |                            | 604   | 20    |       |
| 3077 1 O |                            | DODIC |       |       |
| MK-19    |                            | DODIC | DE 40 | D3 01 |
|          |                            | B472  | B542  | BA21  |
|          | Load                       | 10    |       |       |
|          | Remedial/Immediate Actions |       |       |       |
|          |                            | 10    |       |       |
|          | Zero                       |       | 32    |       |
|          | Table I                    |       | 128   |       |
|          | R6 Card (Table III)        |       | 64    |       |
|          | Ring Mount                 |       | 30    |       |
|          | Zero Optics                |       |       | 32    |
| TOTAL    |                            | 20    | 254   | 32    |
|          |                            |       |       |       |
| SMAW     |                            | DODIC |       |       |
|          |                            | AX11  | HX07  | HX05  |
|          | TS Spot Rifle              | 6     |       |       |
|          | Zero Day                   | 12    |       |       |
|          | Engage Day                 |       | 2     | 1     |
|          | Zero Night                 | 12    |       |       |
|          | Engage Night               |       | 2     | 1     |
| TOTAL    |                            | 30    | 4     | 2     |

| C004. | CREW SERVED WEAR | ON SUS | TAINMENT | /PROFICIENCY A | LLOCATIONS |        |
|-------|------------------|--------|----------|----------------|------------|--------|
| DODIC | EVENT            | QTY    | # OF     | SUSTAINMENT    | ANNUAL     | DODIC  |
|       |                  |        | WEAPONS  | INTERVAL       | TOTAL      | TOTAL  |
|       |                  |        | TEAMS    |                |            |        |
|       |                  | COMBA' | r assaul | T BATTALION    |            |        |
| A064  | CAB-MOBL-3008    | 456    | 15       | Q              | 27360      | 27360  |
| A131  | CAB-MOBL-3008    | 882    | 15       | Q              | 52920      | 52920  |
| A135  | CAB-MOBL-3008    | 12     | 15       | Q              | 720        | 720    |
| A560  | CAB-MOBL-3009    | 20     | 14       | SA             | 560        | 560    |
| A576  | CAB-MOBL-3009    | 604    | 14       | SA             | 16912      | 16912  |
| AX11  | CAB-MOBL-3001    | 30     | 9        | A              | 270        | 270    |
| B472  | CAB-MOBL-3009    | 20     | 14       | SA             | 560        | 560    |
| B542  | CAB-MOBL-3009    | 254    | 14       | SA             | 7112       | 7112   |
| BA21  | CAB-MOBL-3009    | 32     | 14       | SA             | 896        | 896    |
| HX05  | CAB-MOBL-3001    | 2      | 9        | A              | 18         | 18     |
| HX07  | CAB-MOBL-3001    | 4      | 9        | A              | 36         | 36     |
|       |                  | COMBAT | ENGINEE  | R BATTALION    | •          |        |
| A011  | CEB-MOBL-3003    | 10     | 48       | SA             | 960        | 960    |
| A023  | CEB-MOBL-3003    | 10     | 48       | SA             | 960        | 960    |
| A064  | CEB-MOBL-3009    | 456    | 43       | Q              | 78432      | 78432  |
| A131  | CEB-MOBL-3009    | 882    | 49       | Q              | 172872     | 172872 |
| A135  | CEB-MOBL-3009    | 12     | 49       | Q              | 2352       | 2352   |
| A560  | CEB-MOBL-3010    | 20     | 16       | SA             | 640        | 640    |
| A576  | CEB-MOBL-3010    | 604    | 16       | SA             | 19328      | 19328  |
| AA54  | CEB-MOBL-3003    | 10     | 48       | SA             | 960        | 960    |

| A555 | CEB-MOBL-3002 | 20    | 5         | A             | 100   | 100   |
|------|---------------|-------|-----------|---------------|-------|-------|
| AX11 | CEB-MOBL-3001 | 30    | 36        | A             | 1080  | 1080  |
| B472 | CEB-MOBL-3010 | 20    | 8         | SA            | 320   | 320   |
| B542 | CEB-MOBL-3010 | 254   | 8         | SA            | 4064  | 4064  |
| BA21 | CEB-MOBL-3010 | 32    | 8         | SA            | 512   | 512   |
| HX05 | CEB-MOBL-3001 | 2     | 36        | А             | 72    | 72    |
| HX07 | CEB-MOBL-3001 | 4     | 36        | А             | 144   | 144   |
|      |               | COMBA | T LOGIST  | CS BATTALION  |       |       |
| A111 | CLB-MOBL-3002 | 100   | 6         | SA            | 1200  | 1200  |
| A131 | CLB-MOBL-3002 | 900   | 6         | SA            | 10800 | 10800 |
| A576 | CLB-MOBL-3003 | 650   | 6         | Q             | 15600 | 15600 |
|      |               | ENGIN | EER SUPPO | ORT BATTALION |       |       |
| A064 | ESB-MOBL-3002 | 456   | 4         | SA            | 3648  | 3648  |
| A131 | ESB-MOBL-3002 | 882   | 6         | SA            | 10584 | 10584 |
| A135 | ESB-MOBL-3002 | 12    | 6         | SA            | 144   | 144   |
| A560 | ESB-MOBL-3003 | 20    | 2         | Q             | 160   | 160   |
| A576 | ESB-MOBL-3003 | 604   | 2         | Q             | 4832  | 4832  |
| B472 | ESB-MOBL-3003 | 20    | 16        | Q             | 1280  | 1280  |
| B542 | ESB-MOBL-3003 | 254   | 16        | Q             | 16256 | 16256 |
| BA21 | ESB-MOBL-3003 | 32    | 16        | Q             | 2048  | 2048  |

|          | OMBAT ASSAULT BA | TTALION | , ENGINEER | SUSTAINMENT/P | ROFICIENCY |                                       |
|----------|------------------|---------|------------|---------------|------------|---------------------------------------|
| ALLOCATI |                  |         |            | T             |            |                                       |
| DODIC    | EVENT            | QTY     | # OF       | SUSTAINMENT   | ANNUAL     | DODIC                                 |
|          |                  |         | TEAMS,     | INTERVAL      | TOTAL      | TOTAL                                 |
|          |                  |         | SQUADS     |               |            |                                       |
| A011     | CAR MORE 2000    | 1.0     | OR PLTS    | 0.7           | 100        | 180                                   |
| AULI     | CAB-MOBL-3002    | 10      | 9          | SA            | 180        | 180                                   |
| 7023     | CAD MODE 2002    | 1.0     | 0          | G 7           | 100        | 180                                   |
| A023     | CAB-MOBL-3002    | 10      | 9          | SA            | 180        | 180                                   |
| A024     | CAD MODE 2002    | 10      | 9          | CA            | 100        | 180                                   |
| AU24     | CAB-MOBL-3002    | Τ0      | 9          | SA            | 180        | 100                                   |
| AX11     | CAB-MOBL-4001    | 24      | 3          | SA            | 144        |                                       |
| AVII     | CAB-MOBL-4001    | 24      | 3          | SA<br>SA      | 144        |                                       |
|          | CAB-MOBL-4003    | 24      | 3          | SA            | 144        |                                       |
| AX11     | CAB-MOBL-4003    | 24      | 3          | SA            | 144        | 432                                   |
| AXII     |                  |         |            |               |            | 132                                   |
| нх05     | CAB-MOBL-4001    | 4       | 3          | SA            | 24         |                                       |
|          | CAB-MOBL-4002    | 4       | 3          | SA            | 24         |                                       |
|          | CAB-MOBL-4003    | 4       | 3          | SA            | 24         |                                       |
| нх05     | CIB HOLL 1003    | -       |            | 511           | 2.1        | 72                                    |
|          |                  |         |            |               |            | · · · · · · · · · · · · · · · · · · · |
| J143     | CAB-MOBL-4001    | 4       | 3          | SA            | 24         |                                       |
|          | CAB-MOBL-4002    | 4       | 3          | SA            | 24         |                                       |
|          | CAB-MOBL-4003    | 4       | 3          | SA            | 24         |                                       |
|          | CAB-MOBL-4008    | 3       | 3          | A             | 9          |                                       |
|          | CAB-MOBL-3003    | 4       | 9          | A             | 36         |                                       |
|          | CAB-MOBL-3005    | 4       | 3          | A             | 12         |                                       |
|          | CAB-MOBL-3013    | 3       | 3          | A             | 9          |                                       |
| J143     |                  |         |            |               |            | 138                                   |
|          |                  |         |            |               |            |                                       |

| L495 | CAB-CMOB-4001 | 4   | 3 | SA | 24  |     |
|------|---------------|-----|---|----|-----|-----|
|      | CAB-CMOB-4002 | 6   | 3 | SA | 36  |     |
|      | CAB-RECN-4004 | 4   | 3 | SA | 24  |     |
|      | CAB-CMOB-3002 | 2   | 9 | SA | 36  |     |
| L495 |               |     |   |    |     | 120 |
|      |               |     |   |    |     |     |
| L598 | CAB-CMOB-4001 | 4   | 3 | SA | 24  |     |
|      | CAB-RECN-4004 | 4   | 3 | SA | 24  |     |
| L598 |               |     |   |    |     | 48  |
|      |               |     |   |    |     |     |
| M023 | CAB-CMOB-4003 | 20  | 3 | SA | 120 |     |
|      | CAB-MOBL-4011 | 30  | 3 | SA | 180 |     |
|      | CAB-MOBL-3010 | 10  | 1 | A  | 10  |     |
| M023 |               |     |   |    |     | 310 |
|      |               |     |   |    |     |     |
| M028 | CAB-MOBL-4001 | 1   | 3 | SA | 6   |     |
|      | CAB-MOBL-4002 | 1   | 3 | SA | 6   |     |
|      | CAB-MOBL-4003 | 1   | 3 | SA | 6   |     |
|      | CAB-MOBL-4004 | 1   | 3 | A  | 3   |     |
|      | CAB-MOBL-4008 | 1   | 1 | A  | 1   |     |
|      | CAB-DEMO-3001 | 1   | 9 | A  | 9   |     |
|      | CAB-DEMO-3002 | 1   | 9 | A  | 9   |     |
|      | CAB-DEMO-3003 | 1   | 9 | A  | 9   |     |
|      | CAB-DEMO-3004 | 1   | 9 | A  | 9   |     |
|      | CAB-MOBL-3003 | 1   | 9 | A  | 9   |     |
|      | CAB-MOBL-3013 | 1   | 1 | A  | 1   |     |
| M028 |               |     |   |    |     | 68  |
|      | G15 G165 4001 | 1.0 | 2 | ~- | 60  |     |
| M032 | CAB-CMOB-4001 | 10  | 3 | SA | 60  |     |
|      | CAB-CMOB-4002 | 12  | 3 | SA | 72  |     |
|      | CAB-CMOB-4003 | 10  | 3 | SA | 60  |     |
|      | CAB-MOBL-4001 | 10  | 3 | SA | 60  |     |
|      | CAB-MOBL-4002 | 10  | 3 | SA | 60  |     |
|      | CAB-MOBL-4003 | 10  | 3 | SA | 60  |     |
|      | CAB-MOBL-4004 | 10  | 3 | A  | 30  |     |
|      | CAB-MOBL-4005 | 10  | 3 | Q  | 120 |     |
|      | CAB-MOBL-4008 | 10  | 3 | A  | 30  |     |
|      | CAB-MOBL-4011 | 30  | 3 | SA | 180 |     |
|      | CAB-RECN-4004 | 10  | 3 | SA | 60  |     |
|      | CAB-SURV-4006 | 20  | 3 | A  | 60  |     |
|      | CAB-CMOB-3001 | 20  | 9 | SA | 360 |     |
|      | CAB-CMOB-3002 | 4   | 9 | SA | 36  |     |
|      | CAB-CMOB-3003 | 20  | 9 | SA | 180 |     |
|      | CAB-DEMO-3001 | 3   | 9 | A  | 27  |     |
|      | CAB-DEMO-3002 | 3   | 9 | A  | 27  |     |
|      | CAB-DEMO-3003 | 3   | 9 | A  | 27  |     |
|      | CAB-DEMO-3004 | 3   | 9 | A  | 27  |     |
|      | CAB-MOBL-3003 | 20  | 9 | A  | 180 |     |
|      | CAB-MOBL-3004 | 20  | 9 | A  | 180 |     |
|      | CAB-MOBL-3010 | 10  | 9 | A  | 90  |     |
|      | CAB-MOBL-3012 | 10  | 9 | A  | 90  |     |
|      | CAB-MOBL-3013 | 7   | 9 | A  | 63  |     |

|       | CAB-RECN-3003                  | 20 | 9 | Q        | 720 |      |
|-------|--------------------------------|----|---|----------|-----|------|
| M032  | CAB-RECN-3003                  | 20 | 9 | Q        | 720 | 2769 |
| MUJZ  |                                |    |   |          |     | 2703 |
| м039  | CAB-CMOB-4001                  | 1  | 3 | SA       | 6   |      |
| M033  | CAB-CMOB-4001                  | 12 | 3 | SA       | 72  |      |
|       | CAB-CMOB-4002                  | 10 | 3 | SA       | 60  |      |
|       | CAB-RECN-4004                  | 1  | 3 | SA       | 6   |      |
|       | CAB-CMOB-3001                  | 1  | 9 | SA       | 18  |      |
|       | CAB-CMOB-3001                  | 4  | 9 | SA       | 36  |      |
|       | CAB-CMOB-3003                  | 1  | 9 | SA       | 9   |      |
|       | CAB-DEMO-3001                  | 3  | 9 | A        | 27  |      |
|       | CAB DEMO 3001<br>CAB-DEMO-3002 | 3  | 9 | A        | 27  |      |
|       | CAB DEMO 3002                  | 3  | 9 | A        | 27  |      |
|       | CAB-DEMO-3003                  | 3  | 9 | A        | 27  |      |
|       | CAB-RECN-3003                  | 1  | 9 |          | 36  |      |
| м039  | CAD-RECN-3003                  |    | 9 | Q        | 30  | 351  |
| MUJJ  |                                |    |   |          |     | 331  |
| M130  | CAB-CMOB-4001                  | 10 | 3 | SA       | 60  |      |
| 11130 | CAB-CMOB-4001                  | 12 | 3 | SA       | 72  |      |
|       | CAB-CMOB-4002                  | 6  | 3 | SA       | 36  |      |
|       | CAB-CMOB-4003                  | 10 | 3 | SA       | 60  |      |
|       | CAB-MOBL-4002                  | 10 | 3 | SA       | 60  |      |
|       | CAB-MOBL-4002                  | 10 | 3 | SA       | 60  |      |
|       | CAB-MOBL-4004                  | 10 | 3 | A        | 30  |      |
|       | CAB-MOBL-4004                  | 30 | 3 | Q        | 360 |      |
|       | CAB-MOBL-4003                  | 10 | 3 | A        | 300 |      |
|       | CAB-MOBL-4000                  | 10 | 3 | SA       | 60  |      |
|       | CAB-RECN-4004                  | 10 | 3 | SA       | 60  |      |
|       | CAB-RECN-4004<br>CAB-SURV-4006 | 10 | 3 | A        | 30  |      |
|       | CAB-CMOB-3001                  | 20 | 9 | SA       | 360 |      |
|       | CAB-CMOB-3001                  | 6  | 9 | SA       | 54  |      |
|       | CAB-CMOB-3002                  | 20 | 9 | SA       | 360 |      |
|       | CAB-CMOB-3003                  | 5  | 9 | A        | 45  |      |
|       | CAB-DEMO-3001                  | 5  | 9 | A        | 45  |      |
|       | CAB-DEMO-3002                  | 5  | 9 | A        | 45  |      |
|       | CAB-DEMO-3003                  | 5  | 9 | A        | 45  |      |
|       | CAB-DEMO-3004<br>CAB-MOBL-3002 | 20 | 9 | SA       | 360 |      |
|       | CAB-MOBL-3002                  | 60 | 9 |          | 540 |      |
|       | CAB-MOBL-3003                  | 60 | 9 | A A      | 540 |      |
|       | CAB-MOBL-3010                  | 6  | 9 | A<br>A   | 540 |      |
|       | CAB-MOBL-3010                  | 30 | 9 |          | 270 |      |
|       | CAB-MOBL-3012                  | 10 | 9 | A        | 90  |      |
|       | CAB-MOBL-3013<br>CAB-RECN-3003 | 20 | 9 | A<br>Q   | 720 |      |
| M130  | CAD-KECN-3003                  | ∠∪ | 9 | Ų Ų      | 120 | 4446 |
| мтэо  |                                |    | 1 |          |     | 1110 |
| M131  | CAB-CMOB-4001                  | 20 | 3 | SA       | 120 |      |
| нтэт  | CAB-CMOB-4001<br>CAB-CMOB-4002 | 12 | 3 | SA<br>SA | 72  |      |
|       |                                |    |   |          |     |      |
|       | CAB-CMOB-4003                  | 6  | 3 | SA       | 36  |      |
|       | CAB-MOBL-4001                  | 20 | 3 | SA       | 120 |      |
|       | CAB-MOBL-4002                  | 20 | 3 | SA       | 120 |      |
|       | CAB-MOBL-4003                  | 20 | 3 | SA       | 120 |      |
|       | CAB-MOBL-4004                  | 20 | 3 | A        | 60  |      |

|      | CAB-MOBL-4008    | 20   | 3 | A  | 60    |      |
|------|------------------|------|---|----|-------|------|
|      | CAB-MOBL-4011    | 20   | 3 | SA | 120   |      |
|      | CAB-RECN-4004    | 20   | 3 | SA | 120   |      |
|      | CAB-SURV-4006    | 20   | 3 | A  | 60    |      |
|      | CAB-CMOB-3001    | 20   | 9 | SA | 360   |      |
|      | CAB-CMOB-3002    | 6    | 9 | SA | 108   |      |
|      | CAB-CMOB-3003    | 10   | 9 | SA | 180   |      |
|      | CAB-DEMO-3001    | 5    | 9 | A  | 45    |      |
|      | CAB-DEMO-3002    | 5    | 9 | A  | 45    |      |
|      | CAB-DEMO-3003    | 5    | 9 | A  | 45    |      |
|      | CAB-DEMO-3004    | 5    | 9 | A  | 45    |      |
|      | CAB-MOBL-3010    | 6    | 9 | A  | 54    |      |
|      | CAB-MOBL-3013    | 10   | 9 | А  | 90    |      |
|      | CAB-RECN-3003    | 10   | 9 | Q  | 360   |      |
| M131 |                  |      |   |    |       | 2518 |
|      |                  |      |   |    |       |      |
| M327 | CAB-CMOB-4002    | 12   | 3 | SA | 72    |      |
|      | CAB-CMOB-3002    | 6    | 9 | SA | 108   |      |
| M327 |                  |      |   |    |       | 180  |
| M420 | CAB-CMOB-4001    | 1    | 3 | SA | 6     |      |
|      | CAB-CMOB-4003    | 5    | 3 | SA | 30    |      |
|      | CAB-RECN-4004    | 1    | 3 | SA | 6     |      |
|      | CAB-CMOB-3001    | 1    | 9 | SA | 18    |      |
|      | CAB-CMOB-3003    | 1    | 9 | SA | 18    |      |
|      | CAB-DEMO-3001    | 1    | 9 | A  | 9     |      |
|      | CAB-DEMO-3002    | 1    | 9 | A  | 9     |      |
|      | CAB-DEMO-3003    | 1    | 9 | A  | 9     |      |
|      | CAB-DEMO-3004    | 1    | 9 | A  | 9     |      |
|      | CAB-RECN-3003    | 1    | 9 | 0  | 36    |      |
| M420 | 0112 112011 0000 |      | _ | ×  |       | 150  |
|      |                  |      |   |    |       |      |
| M421 | CAB-CMOB-4001    | 1    | 3 | SA | 6     |      |
|      | CAB-CMOB-4002    | 8    | 3 | SA | 48    |      |
|      | CAB-CMOB-4003    | 10   | 3 | SA | 60    |      |
|      | CAB-RECN-4004    | 1    | 3 | SA | 6     |      |
|      | CAB-CMOB-3001    | 1    | 9 | SA | 18    |      |
|      | CAB-CMOB-3002    | 4    | 9 | SA | 72    |      |
|      | CAB-CMOB-3003    | 1    | 9 | SA | 18    |      |
|      | CAB-RECN-3003    | 1    | 9 | Q  | 36    |      |
| M421 | 52. 22.0         |      | - | ~  |       | 264  |
|      |                  |      |   |    |       |      |
| M456 | CAB-CMOB-4001    | 1500 | 3 | SA | 9000  |      |
|      | CAB-CMOB-4002    | 1000 | 3 | SA | 6000  |      |
|      | CAB-CMOB-4003    | 1000 | 3 | SA | 6000  |      |
|      | CAB-MOBL-4001    | 1500 | 3 | SA | 9000  |      |
|      | CAB-MOBL-4002    | 1500 | 3 | SA | 9000  |      |
|      | CAB-MOBL-4003    | 1500 | 3 | SA | 9000  |      |
|      | CAB-MOBL-4004    | 1500 | 3 | A  | 4500  |      |
|      | CAB-MOBL-4005    | 2000 | 3 | Q  | 24000 |      |
|      | CAB-MOBL-4008    | 1500 | 3 | Ā  | 4500  |      |
|      | CAB-MOBL-4011    | 2000 | 3 | SA | 12000 |      |

|       | CAB-RECN-4004                                   | 1500       | 3      | SA       | 9000         |        |
|-------|-------------------------------------------------|------------|--------|----------|--------------|--------|
|       | CAB-SURV-4006                                   | 2000       | 3      | A        | 6000         |        |
|       | CAB-CMOB-3001                                   | 1000       | 9      | SA       | 18000        |        |
|       | CAB-CMOB-3002                                   | 1000       | 9      | SA       | 18000        |        |
|       | CAB-CMOB-3003                                   | 1000       | 9      | SA       | 18000        |        |
|       | CAB-DEMO-3001                                   | 250        | 9      | А        | 2250         |        |
|       | CAB-DEMO-3002                                   | 250        | 9      | А        | 2250         |        |
|       | CAB-DEMO-3003                                   | 250        | 9      | A        | 2250         |        |
|       | CAB-DEMO-3004                                   | 250        | 9      | A        | 2250         |        |
|       | CAB-MOBL-3002                                   | 1000       | 9      | SA       | 9000         |        |
|       | CAB-MOBL-3003                                   | 1500       | 9      | A        | 13500        |        |
|       | CAB-MOBL-3004                                   | 1000       | 9      | A        | 9000         |        |
|       | CAB-MOBL-3010                                   | 1000       | 9      | A        | 9000         |        |
|       | CAB-MOBL-3012                                   | 2000       | 9      | A        | 18000        |        |
|       | CAB-MOBL-3013                                   | 1500       | 3      | A        | 4500         |        |
|       | CAB-RECN-3003                                   | 1000       | 9      | A        | 9000         |        |
| M456  | C11D 1(IICIN 3003                               | 1000       | ,      | А        | 2000         | 246000 |
| 1110  |                                                 |            |        |          | 1            | 210000 |
| M591  | CAB-CMOB-4001                                   | 10         | 3      | SA       | 60           |        |
| 11071 | CAB-CMOB-4001                                   | 10         | 3      | SA       | 60           |        |
|       | CAB-CMOB-4002                                   | 10         | 3      | SA       | 60           |        |
|       | CAB-MOBL-4011                                   | 20         | 3      |          | 120          |        |
|       | CAB-MOBL-4011 CAB-RECN-4004                     | 10         | 3      | SA       | 60           |        |
|       |                                                 | 30         | 3      | SA       | +            |        |
|       | CAB-SURV-4006                                   | 10         | 9      | A        | 90           |        |
|       | CAB-CMOB-3001                                   |            |        | SA       | 180          |        |
|       | CAB-CMOB-3002                                   | 6          | 9      | SA       | 54           |        |
|       | CAB-CMOB-3003                                   | 10         | -      | SA       | 180          |        |
|       | CAB-DEMO-3001                                   | 6          | 9      | A        | 54           |        |
|       | CAB-DEMO-3002                                   | 6          | 9      | A        | 54           |        |
|       | CAB-DEMO-3003                                   | 6          | 9      | A        | 54           |        |
|       | CAB-DEMO-3004                                   | 6          | 9      | A        | 54           |        |
|       | CAB-MOBL-3010                                   | 20         | 9      | A        | 180          |        |
|       | CAB-RECN-3003                                   | 10         | 9      | Q        | 360          |        |
| M591  |                                                 |            |        |          |              | 1980   |
|       |                                                 |            |        |          |              |        |
| M670  | CAB-CMOB-4001                                   | 500        | 3      | SA       | 3000         |        |
|       | CAB-CMOB-4002                                   | 500        | 3      | SA       | 3000         |        |
|       | CAB-CMOB-4003                                   | 500        | 3      | SA       | 3000         |        |
|       | CAB-MOBL-4001                                   | 500        | 3      | SA       | 3000         |        |
|       | CAB-MOBL-4002                                   | 500        | 3      | SA       | 3000         |        |
|       | CAB-MOBL-4003                                   | 500        | 3      | SA       | 3000         |        |
|       | CAB-MOBL-4004                                   | 500        | 3      | A        | 1500         |        |
|       | CAB-MOBL-4005                                   | 250        | 3      | Q        | 3000         |        |
|       | CAB-MOBL-4008                                   | 500        | 3      | A        | 1500         |        |
|       | CAB-MOBL-4011                                   | 1000       | 3      | SA       | 6000         |        |
|       | CAB-RECN-4004                                   | 500        | 3      | SA       | 3000         |        |
|       | CAB-RECN-4004                                   |            |        |          | 1 = 0 0      | 1      |
|       | CAB-SURV-4004                                   | 500        | 3      | A        | 1500         |        |
|       |                                                 | 500<br>500 | 3<br>9 | A<br>SA  | 9000         |        |
|       | CAB-SURV-4006                                   |            |        |          |              |        |
|       | CAB-SURV-4006<br>CAB-CMOB-3001                  | 500        | 9      | SA       | 9000         |        |
|       | CAB-SURV-4006<br>CAB-CMOB-3001<br>CAB-CMOB-3002 | 500<br>125 | 9<br>9 | SA<br>SA | 9000<br>2250 |        |

|      | CAB-DEMO-3003                  | 150  | 9 | A   | 1350     |        |
|------|--------------------------------|------|---|-----|----------|--------|
|      | CAB-DEMO-3004                  | 150  | 9 | А   | 1350     |        |
|      | CAB-MOBL-3002                  | 500  | 9 | SA  | 9000     |        |
|      | CAB-MOBL-3003                  | 500  | 9 | А   | 4500     |        |
|      | CAB-MOBL-3004                  | 500  | 9 | A   | 4500     |        |
|      | CAB-MOBL-3007                  | 1500 | 9 | A   | 13500    |        |
|      | CAB-MOBL-3010                  | 500  | 9 | A   | 4500     |        |
|      | CAB-MOBL-3012                  | 250  | 9 | A   | 2250     |        |
|      | CAB-MOBL-3013                  | 500  | 3 | A   | 1500     |        |
|      | CAB-RECN-3003                  | 500  | 9 | Q   | 18000    |        |
| M670 |                                |      | - | ~   |          | 114900 |
|      |                                |      |   |     |          |        |
| M757 | CAB-CMOB-4001                  | 2    | 3 | SA  | 12       |        |
|      | CAB-CMOB-4002                  | 6    | 3 | SA  | 18       |        |
|      | CAB-MOBL-4001                  | 2    | 3 | SA  | 12       |        |
|      | CAB-MOBL-4002                  | 2    | 3 | SA  | 12       |        |
|      | CAB-MOBL-4003                  | 2    | 3 | SA  | 12       |        |
|      | CAB-MOBL-4004                  | 2    | 3 | A   | 6        |        |
|      | CAB-MOBL-4005                  | 2    | 3 | Q   | 24       |        |
|      | CAB-MOBL-4008                  | 2    | 3 | A   | 6        |        |
|      | CAB-MOBL-4008<br>CAB-RECN-4004 | 2    | 3 | SA  | 12       |        |
|      |                                | 1    | 9 |     |          |        |
|      | CAB-CMOB-3001                  | 2    | 9 | SA  | 18<br>36 |        |
|      | CAB-CMOB-3002                  |      |   | SA  |          |        |
|      | CAB-CMOB-3003                  | 1    | 9 | SA  | 9        |        |
|      | CAB-DEMO-3001                  | 1    | 9 | A   | 9        |        |
|      | CAB-DEMO-3002                  | 1    | 9 | A   | 9        |        |
|      | CAB-DEMO-3003                  | 1    |   | A   | 9        |        |
|      | CAB-DEMO-3004                  | 1    | 9 | A   |          |        |
|      | CAB-MOBL-3002                  | 1    | _ | SA  | 18       |        |
|      | CAB-MOBL-3003                  | 2    | 9 | A   | 18       |        |
|      | CAB-MOBL-3004                  | 2    | 9 | A   | 18       |        |
|      | CAB-MOBL-3007                  | 1    | 9 | A   | 9        |        |
|      | CAB-MOBL-3012                  | 2    | 9 | A   | 18       |        |
|      | CAB-MOBL-3013                  | 2    | 3 | A   | 6        |        |
|      | CAB-RECN-3003                  | 1    | 9 | Q   | 36       | 245    |
| M757 |                                |      |   |     |          | 345    |
|      | G10 11007 4001                 | 1    | 2 | G-3 |          |        |
| M913 | CAB-MOBL-4001                  | 1    | 3 | SA  | 6        |        |
|      | CAB-MOBL-4002                  | 1    | 3 | SA  | 6        |        |
|      | CAB-MOBL-4003                  | 1    | 3 | SA  | 6        |        |
|      | CAB-MOBL-4008                  | 2    | 3 | A   | 6        |        |
|      | CAB-MOBL-3003                  | 1    | 9 | A   | 9        |        |
|      | CAB-MOBL-3005                  | 1    | 3 | A   | 3        |        |
|      | CAB-MOBL-3013                  | 6    | 3 | A   | 18       |        |
| M913 |                                |      |   |     |          | 54     |
|      |                                |      |   |     |          |        |
| M914 | CAB-MOBL-4001                  | 2    | 3 | SA  | 12       |        |
|      | CAB-MOBL-4002                  | 2    | 3 | SA  | 12       |        |
|      | CAB-MOBL-4003                  | 2    | 3 | SA  | 12       |        |
|      | CAB-MOBL-4008                  | 1    | 3 | A   | 3        |        |
|      | CAB-MOBL-3003                  | 2    | 9 | A   | 18       |        |
|      | CAB-MOBL-3005                  | 2    | 3 | А   | 6        |        |

|                                       | T === === = = = = = = = = = = = = = = = |    | 1 0 |    |     | T   |
|---------------------------------------|-----------------------------------------|----|-----|----|-----|-----|
|                                       | CAB-MOBL-3013                           | 3  | 3   | A  | 9   |     |
| M914                                  |                                         |    |     |    |     | 72  |
|                                       |                                         |    |     |    | - 4 |     |
| м982                                  | CAB-DEMO-3001                           | 6  | 9   | A  | 54  |     |
|                                       | CAB-DEMO-3002                           | 6  | 9   | A  | 54  |     |
|                                       | CAB-DEMO-3003                           | 6  | 9   | А  | 54  |     |
|                                       | CAB-DEMO-3004                           | 6  | 9   | A  | 54  |     |
|                                       | CAB-MOBL-3002                           | 1  | 9   | SA | 18  |     |
| M982                                  |                                         |    |     |    |     | 234 |
|                                       |                                         |    |     |    |     |     |
| ML03                                  | CAB-CMOB-4001                           | 2  | 3   | SA | 12  |     |
|                                       | CAB-CMOB-4002                           | 12 | 3   | SA | 72  |     |
|                                       | CAB-CMOB-4003                           | 6  | 3   | SA | 36  |     |
|                                       | CAB-MOBL-4001                           | 2  | 3   | SA | 12  |     |
|                                       | CAB-MOBL-4002                           | 2  | 3   | SA | 12  |     |
|                                       | CAB-MOBL-4003                           | 2  | 3   | SA | 12  |     |
|                                       | CAB-MOBL-4004                           | 2  | 3   | А  | 6   |     |
|                                       | CAB-MOBL-4008                           | 2  | 3   | A  | 6   |     |
|                                       | CAB-MOBL-4011                           | 10 | 3   | SA | 60  |     |
|                                       | CAB-RECN-4004                           | 2  | 3   | SA | 12  |     |
|                                       | CAB-SURV-4006                           | 10 | 3   | А  | 30  |     |
|                                       | CAB-CMOB-3002                           | 4  | 9   | SA | 72  |     |
|                                       | CAB-MOBL-3013                           | 2  | 3   | А  | 6   |     |
| M103                                  |                                         |    |     |    |     | 348 |
|                                       |                                         |    |     |    |     |     |
| MM30                                  | CAB-DEMO-3001                           | 4  | 9   | А  | 36  |     |
|                                       | CAB-DEMO-3002                           | 4  | 9   | А  | 36  |     |
|                                       | CAB-DEMO-3003                           | 4  | 9   | A  | 36  |     |
|                                       | CAB-DEMO-3004                           | 4  | 9   | A  | 36  |     |
|                                       |                                         |    |     |    |     | 144 |
|                                       |                                         |    |     |    |     |     |
| MM44                                  | CAB-DEMO-3001                           | 1  | 9   | А  | 9   |     |
|                                       | CAB-DEMO-3002                           | 1  | 9   | А  | 9   |     |
|                                       | CAB-DEMO-3003                           | 1  | 9   | А  | 9   |     |
|                                       | CAB-DEMO-3004                           | 1  | 9   | A  | 9   |     |
| MM44                                  |                                         |    |     |    |     | 36  |
|                                       |                                         |    |     |    |     |     |
| MM45                                  | CAB-DEMO-3001                           | 1  | 9   | А  | 9   |     |
|                                       | CAB-DEMO-3002                           | 1  | 9   | А  | 9   |     |
|                                       | CAB-DEMO-3003                           | 1  | 9   | A  | 9   |     |
|                                       | CAB-DEMO-3004                           | 1  | 9   | A  | 9   |     |
| MM45                                  |                                         |    |     |    |     | 36  |
|                                       |                                         |    |     |    |     |     |
| MM47                                  | CAB-DEMO-3001                           | 1  | 9   | A  | 9   |     |
|                                       | CAB-DEMO-3002                           | 1  | 9   | A  | 9   |     |
|                                       | CAB-DEMO-3003                           | 1  | 9   | A  | 9   |     |
|                                       | CAB-DEMO-3004                           | 1  | 9   | А  | 9   |     |
|                                       | CAB-MOBL-3002                           | 5  | 9   | SA | 90  |     |
| MM47                                  |                                         |    |     |    |     | 126 |
|                                       |                                         |    |     |    |     |     |
| MM48                                  | CAB-DEMO-3001                           | 1  | 9   | A  | 9   |     |
| · · · · · · · · · · · · · · · · · · · | CAB-DEMO-3002                           | 1  | 9   | А  | 9   |     |

|        | CAB-DEMO-3003                  | 1   | 9 | A        | 9   |      |
|--------|--------------------------------|-----|---|----------|-----|------|
|        | CAB-DEMO-3004                  | 1   | 9 | A        | 9   |      |
| MM48   | CAD DEMO 3001                  |     |   | - A      |     | 36   |
| 11110  |                                |     |   |          |     |      |
| MM56   | CAB-MOBL-3002                  | 10  | 9 | SA       | 180 | 180  |
|        | 0112 11022 0002                |     |   |          | 200 |      |
| MN08   | CAB-CMOB-4001                  | 35  | 3 | SA       | 210 |      |
|        | CAB-CMOB-4002                  | 12  | 3 | SA       | 72  |      |
|        | CAB-CMOB-4003                  | 6   | 3 | SA       | 36  |      |
|        | CAB-MOBL-4001                  | 35  | 3 | SA       | 210 |      |
|        | CAB-MOBL-4002                  | 35  | 3 | SA       | 210 |      |
|        | CAB-MOBL-4003                  | 35  | 3 | SA       | 210 |      |
|        | CAB-MOBL-4004                  | 35  | 3 | A        | 105 |      |
|        | CAB-MOBL-4005                  | 25  | 3 | Q        | 300 |      |
|        | CAB-MOBL-4008                  | 35  | 3 | А        | 105 |      |
|        | CAB-MOBL-4011                  | 30  | 3 | SA       | 180 |      |
|        | CAB-RECN-4004                  | 35  | 3 | SA       | 210 |      |
|        | CAB-SURV-4006                  | 20  | 3 | А        | 60  |      |
|        | CAB-CMOB-3001                  | 20  | 9 | SA       | 360 |      |
|        | CAB-CMOB-3002                  | 6   | 9 | SA       | 54  |      |
|        | CAB-CMOB-3003                  | 20  | 9 | SA       | 360 |      |
|        | CAB-DEMO-3001                  | 15  | 9 | А        | 135 |      |
|        | CAB-DEMO-3002                  | 15  | 9 | А        | 135 |      |
|        | CAB-DEMO-3003                  | 15  | 9 | А        | 135 |      |
|        | CAB-DEMO-3004                  | 15  | 9 | А        | 135 |      |
|        | CAB-MOBL-3002                  | 40  | 9 | SA       | 720 |      |
|        | CAB-MOBL-3003                  | 100 | 9 | А        | 900 |      |
|        | CAB-MOBL-3004                  | 100 | 9 | А        | 900 |      |
|        | CAB-MOBL-3007                  | 40  | 9 | А        | 360 |      |
|        | CAB-MOBL-3010                  | 10  | 9 | А        | 90  |      |
|        | CAB-MOBL-3012                  | 2   | 9 | А        | 18  |      |
|        | CAB-MOBL-3013                  | 20  | 3 | А        | 60  |      |
|        | CAB-RECN-3003                  | 20  | 9 | Q        | 720 |      |
| 80MM   |                                |     |   |          |     | 7160 |
|        |                                |     |   |          |     |      |
| MN14   | CAB-CMOB-4002                  | 12  | 3 | SA       | 72  |      |
|        | CAB-CMOB-3002                  | 4   | 9 | SA       | 72  |      |
|        | CAB-MOBL-3002                  | 2   | 9 | SA       | 36  |      |
| MN14   |                                |     |   |          |     | 180  |
| MN52   | CAB-CMOB-4002                  | 8   | 3 | SA       | 48  |      |
| -11176 | CAB-CMOB-4002                  | 8   | 3 | SA<br>SA | 48  |      |
|        | CAB-CMOB-4003                  | 10  | 3 | A A      | 30  |      |
|        | CAB-MOBL-4008                  | 10  | 3 | A<br>SA  | 60  |      |
|        | CAB-MOBL-4011  CAB-SURV-4006   | 10  | 3 | A A      | 30  |      |
|        | CAB-S0RV-4000                  | 4   | 9 | SA       | 108 |      |
|        | CAB-CMOB-3002<br>CAB-MOBL-3010 | 10  | 9 | A        | 90  |      |
|        | CAB-MOBL-3010                  | 10  | 9 | A        | 90  |      |
| MN52   | CVD 110DH_2017                 | 10  | J | A        | 30  | 504  |
| -11176 |                                |     |   |          |     | 201  |
| MN79   | CAB-MOBL-4001                  | 1   | 3 | SA       | 6   |      |
|        | CAB-MOBL-4002                  | 1   | 3 | SA       | 6   |      |

|      | CAB-MOBL-4003 | 1  | 3 | SA | 6   |     |
|------|---------------|----|---|----|-----|-----|
|      | CAB-MOBL-4008 | 1  | 3 | A  | 3   |     |
|      | CAB-MOBL-3003 | 1  | 3 | A  | 9   |     |
|      | CAB-MOBL-3013 | 1  | 9 | A  | 9   |     |
| MN79 |               |    |   |    |     | 36  |
|      |               |    |   |    |     |     |
| MN88 | CAB-MOBL-4005 | 5  | 3 | Q  | 60  |     |
|      | CAB-MOBL-3003 | 10 | 9 | А  | 90  |     |
|      | CAB-MOBL-3004 | 10 | 9 | A  | 90  |     |
|      | CAB-MOBL-3007 | 2  | 9 | A  | 18  |     |
|      | CAB-MOBL-3012 | 5  | 9 | A  | 45  |     |
| MN88 |               |    |   |    |     | 303 |
|      |               |    |   |    |     |     |
| MN90 | CAB-MOBL-4005 | 10 | 3 | Q  | 120 |     |
|      | CAB-MOBL-3003 | 10 | 9 | A  | 90  |     |
|      | CAB-MOBL-3004 | 10 | 9 | A  | 90  |     |
|      | CAB-MOBL-3007 | 15 | 9 | А  | 135 |     |
|      | CAB-MOBL-3012 | 10 | 9 | A  | 90  |     |
| MN90 |               |    |   |    |     | 525 |

| DODIC | EVENT         | OTY # OF | # OF       | SUSTAINMENT  | ANNUAL | DODIC  |
|-------|---------------|----------|------------|--------------|--------|--------|
| DODIC | 2,721,1       | 2        | TEAMS,     | INTERVAL     | TOTAL  | TOTAL  |
|       |               |          | SQUADS, OR | 114111141111 | 101111 | 101111 |
|       |               |          | PLTS       |              |        |        |
| J007  | CEB-CMOB-4001 | 1        | 33         | SA           | 66     | 66     |
| J143  | CEB-MOBL-4001 | 4        | 33         | SA           | 264    |        |
|       | CEB-MOBL-4002 | 4        | 33         | SA           | 264    |        |
|       | CEB-MOBL-4003 | 4        | 33         | SA           | 264    |        |
|       | CEB-MOBL-4008 | 3        | 33         | А            | 99     |        |
|       | CEB-MOBL-3002 | 4        | 66         | А            | 264    |        |
|       | CEB-MOBL-3004 | 3        | 66         | А            | 198    |        |
|       | CEB-MOBL-3015 | 1        | 66         | А            | 66     |        |
| J143  |               |          |            |              |        | 1419   |
| L495  | CEB-CMOB-4001 | 4        | 33         | SA           | 264    |        |
|       | CEB-CMOB-4002 | 6        | 33         | SA           | 396    |        |
|       | CEB-RECN-4004 | 4        | 33         | Q            | 528    |        |
|       | CEB-CMOB-3002 | 2        | 66         | SA           | 264    |        |
| L495  |               |          |            |              |        | 1452   |
| L598  | CEB-CMOB-4001 | 4        | 33         | SA           | 264    |        |
|       | CEB-RECN-4004 | 4        | 33         | Q            | 528    |        |
| L598  |               |          |            |              |        | 792    |
| M023  | CEB-CMOB-4003 | 20       | 33         | SA           | 1320   |        |
|       | CEB-MOBL-4011 | 30       | 33         | SA           | 1980   |        |
|       | CEB-RECN-4004 | 24       | 33         | Q            | 3168   |        |
|       | CEB-SURV-4006 | 20       | 33         | А            | 660    |        |
|       | CEB-MOBL-3011 | 10       | 33         | Q            | 1320   |        |
| M023  |               |          |            |              |        | 8448   |

| M028 | CEB-MOBL-4001  | 1  | 33  | SA  | 66   |          |
|------|----------------|----|-----|-----|------|----------|
|      | CEB-MOBL-4002  | 1  | 33  | SA  | 66   |          |
|      | CEB-MOBL-4003  | 1  | 33  | SA  | 66   |          |
|      | CEB-MOBL-4004  | 1  | 33  | A   | 33   |          |
|      | CEB-MOBL-4008  | 1  | 33  | A   | 33   |          |
|      | CEB-DEMO-3001  | 1  | 66  | A   | 66   |          |
|      | CEB-DEMO-3002  | 1  | 66  | A   | 66   |          |
|      | CEB-DEMO-3003  | 1  | 66  | A   | 66   |          |
|      | CEB-DEMO-3004  | 1  | 66  | A   | 66   |          |
|      | CEB-MOBL-3004  | 1  | 66  | A   | 66   |          |
|      | CEB-MOBL-3015  | 1  | 66  | A   | 66   |          |
| M028 | CEB 110BE 3013 |    | 0.0 |     |      | 660      |
|      |                |    |     |     |      |          |
| M032 | CEB-CMOB-4001  | 10 | 33  | SA  | 660  |          |
|      | CEB-CMOB-4002  | 12 | 33  | SA  | 792  |          |
|      | CEB-CMOB-4003  | 10 | 33  | SA  | 660  |          |
|      | CEB-MOBL-4001  | 10 | 33  | SA  | 660  |          |
|      | CEB-MOBL-4002  | 10 | 33  | SA  | 660  |          |
|      | CEB-MOBL-4003  | 10 | 33  | SA  | 660  |          |
|      | CEB-MOBL-4004  | 10 | 33  | A   | 330  |          |
|      | CEB-MOBL-4005  | 10 | 33  | Q   | 1320 |          |
|      | CEB-MOBL-4008  | 10 | 33  | A A | 330  |          |
|      | CEB-MOBL-4011  | 30 | 33  | SA  | 1980 |          |
|      | CEB-RECN-4004  | 20 | 33  | Q   | 3036 |          |
|      | CEB-SURV-4006  | 20 | 33  | A A | 660  |          |
|      | CEB-CMOB-3001  | 20 | 66  | SA  | 2640 |          |
|      | CEB-CMOB-3002  | 4  | 66  | SA  | 528  |          |
|      | CEB-CMOB-3003  | 20 | 66  | SA  | 2640 |          |
|      | CEB-DEMO-3001  | 3  | 66  | A   | 198  |          |
|      | CEB-DEMO-3002  | 3  | 66  | A   | 198  |          |
|      | CEB-DEMO-3003  | 3  | 66  | A   | 198  |          |
|      | CEB-DEMO-3004  | 3  | 66  | A   | 198  |          |
|      | CEB-MOBL-3004  | 20 | 66  | A   | 1320 |          |
|      | CEB-MOBL-3005  | 20 | 66  | A   | 1320 |          |
|      | CEB-MOBL-3011  | 10 | 66  | Q   | 2640 |          |
|      | CEB-MOBL-3014  | 10 | 66  | A A | 660  |          |
|      | CEB-MOBL-3015  | 7  | 66  | A   | 462  |          |
|      | CEB-RECN-3003  | 20 | 66  | Q   | 5280 |          |
| M032 | 111 111 3003   |    |     | ×   | 2230 | 29470    |
|      |                |    |     |     |      |          |
| м039 | CEB-CMOB-4001  | 1  | 33  | SA  | 66   |          |
|      | CEB-CMOB-4002  | 12 | 33  | SA  | 792  |          |
|      | CEB-CMOB-4003  | 10 | 33  | SA  | 660  |          |
|      | CEB-RECN-4004  | 1  | 33  | Q   | 132  |          |
|      | CEB-CMOB-3001  | 1  | 66  | SA  | 132  |          |
|      | CEB-CMOB-3002  | 4  | 66  | SA  | 528  |          |
|      | CEB-CMOB-3003  | 1  | 66  | SA  | 132  |          |
|      | CEB-DEMO-3001  | 3  | 66  | A   | 198  |          |
|      | CEB-DEMO-      | 3  | 66  | A   | 198  |          |
|      | CEB-DEMO-      | 3  | 66  | A   | 198  |          |
|      | CED-DEMO-      | ٥  | 00  | A   | 130  | <u> </u> |

|      |               |    | ı . |        |       | 1            |
|------|---------------|----|-----|--------|-------|--------------|
|      | 3003          |    |     |        |       |              |
|      | CEB-DEMO-3004 | 3  | 66  | A      | 198   |              |
|      | CEB-RECN-3003 | 1  | 66  | А      | 66    |              |
| м039 |               |    |     |        |       | 3300         |
|      |               |    |     |        |       |              |
| M130 | CEB-CMOB-4001 | 10 | 33  | SA     | 660   |              |
|      | CEB-CMOB-4002 | 12 | 33  | SA     | 792   |              |
|      | CEB-CMOB-4003 | 6  | 33  | SA     | 396   |              |
|      | CEB-MOBL-4001 | 10 | 33  | SA     | 660   |              |
|      | CEB-MOBL-4002 | 10 | 33  | SA     | 660   |              |
|      | CEB-MOBL-4003 | 10 | 33  | SA     | 660   |              |
|      | CEB-MOBL-4004 | 10 | 33  | А      | 330   |              |
|      | CEB-MOBL-4005 | 30 | 33  | Q      | 3960  |              |
|      | CEB-MOBL-4008 | 10 | 33  | А      | 330   |              |
|      | CEB-MOBL-4011 | 10 | 33  | SA     | 660   |              |
|      | CEB-RECN-4004 | 10 | 33  | Q      | 1320  |              |
|      | CEB-SURV-4006 | 10 | 33  | А      | 330   |              |
|      | CEB-CMOB-3001 | 20 | 66  | SA     | 2640  |              |
|      | CEB-CMOB-3002 | 6  | 66  | SA     | 792   |              |
|      | CEB-CMOB-3003 | 20 | 66  | SA     | 2640  |              |
|      | CEB-DEMO-3001 | 5  | 66  | А      | 330   |              |
|      | CEB-DEMO-3002 | 5  | 66  | А      | 330   |              |
|      | CEB-DEMO-3003 | 5  | 66  | А      | 330   |              |
|      | CEB-DEMO-3004 | 5  | 66  | А      | 330   |              |
|      | CEB-MOBL-3003 | 20 | 66  | SA     | 2640  |              |
|      | CEB-MOBL-3004 | 60 | 66  | А      | 3960  |              |
|      | CEB-MOBL-3005 | 60 | 66  | А      | 3960  |              |
|      | CEB-MOBL-3011 | 6  | 66  | Q      | 1584  |              |
|      | CEB-MOBL-3014 | 30 | 66  | Ā      | 1980  |              |
|      | CEB-MOBL-3015 | 7  | 66  | A      | 462   |              |
|      | CEB-RECN-3003 | 20 | 66  | Q      | 5280  |              |
| M130 |               |    |     |        |       | 35288        |
|      |               |    |     |        |       |              |
| M131 | CEB-CMOB-4001 | 20 | 33  | SA     | 1320  |              |
|      | CEB-CMOB-4002 | 12 | 33  | SA     | 792   |              |
|      | CEB-CMOB-4003 | 6  | 33  | SA     | 396   |              |
|      | CEB-MOBL-4001 | 20 | 33  | SA     | 1320  |              |
|      | CEB-MOBL-4002 | 20 | 33  | SA     | 1320  |              |
|      | CEB-MOBL-4003 | 20 | 33  | SA     | 1320  |              |
|      | CEB-MOBL-4004 | 20 | 33  | А      | 660   |              |
|      | CEB-MOBL-4008 | 20 | 33  | A      | 660   |              |
|      | CEB-MOBL-4011 | 20 | 33  | SA     | 660   |              |
|      | CEB-RECN-4004 | 20 | 33  | Q      | 2640  |              |
|      | CEB-SURV-4006 | 20 | 33  | A A    | 660   |              |
|      | CEB-CMOB-3001 | 20 | 66  | SA     | 2640  |              |
|      | CEB-CMOB-3002 | 6  | 66  | SA     | 792   |              |
|      | CEB-CMOB-3003 | 10 | 66  | SA     | 1320  |              |
|      | CEB-DEMO-3001 | 5  | 66  | A      | 330   | 1            |
|      | CEB-DEMO-3002 | 5  | 66  | A      | 330   |              |
|      | CEB-DEMO-3002 | 5  | 66  | A      | 330   | <del> </del> |
|      |               |    | 0.0 | $\sim$ | 1 330 | 1            |
|      | CEB-DEMO-3004 | 5  | 66  | А      | 330   |              |

|       | CEB-MOBL-3015                                   | 3            | 66       | А      | 198             |       |
|-------|-------------------------------------------------|--------------|----------|--------|-----------------|-------|
|       | CEB-RECN-3003                                   | 4            | 66       | Q      | 1056            |       |
| M131  | CED RECR 3003                                   | -            | 00       | ~      | 1030            | 20658 |
|       |                                                 |              |          |        |                 |       |
| M327  | CEB-CMOB-4002                                   | 12           | 33       | SA     | 792             |       |
|       | CEB-CMOB-3002                                   | 6            | 66       | SA     | 792             |       |
| M327  |                                                 |              |          |        |                 | 1584  |
|       |                                                 |              |          |        |                 |       |
| M420  | CEB-CMOB-4001                                   | 1            | 33       | SA     | 66              |       |
|       | CEB-CMOB-4003                                   | 5            | 33       | SA     | 330             |       |
|       | CEB-RECN-4004                                   | 1            | 33       | Q      | 132             |       |
|       | CEB-CMOB-3001                                   | 1            | 66       | SA     | 132             |       |
|       | CEB-CMOB-3003                                   | 1            | 66       | SA     | 132             |       |
|       | CEB-RECN-3003                                   | 1            | 66       | Q      | 264             |       |
|       | CEB-DEMO-3001                                   | 1            | 66       | A      | 66              |       |
|       | CEB-DEMO-3002                                   | 1            | 66       | A      | 66              |       |
|       | CEB-DEMO-3003                                   | 1            | 66       | A      | 66              |       |
|       | CEB-DEMO-3004                                   | 1            | 66       | A      | 66              |       |
| M420  |                                                 |              |          |        |                 | 1320  |
| M421  | CEB-CMOB-4001                                   | 1            | 33       | SA     | 66              |       |
|       | CEB-CMOB-4002                                   | 8            | 33       | SA     | 528             |       |
|       | CEB-CMOB-4003                                   | 10           | 33       | SA     | 660             |       |
|       | CEB-RECN-4004                                   | 1            | 33       | Q      | 132             |       |
|       | CEB-CMOB-3001                                   | 1            | 66       | SA     | 132             |       |
|       | CEB-CMOB-3002                                   | 4            | 66       | SA     | 528             |       |
|       | CEB-CMOB-3003                                   | 1            | 66       | SA     | 132             |       |
|       | CEB-RECN-3003                                   | 1            | 66       | Q      | 264             |       |
| M421  |                                                 |              |          |        |                 | 2178  |
| 36456 | GED GMOD 4001                                   | 1500         | 2.2      | G.P.   | 00000           |       |
| M456  | CEB-CMOB-4001                                   | 1500         | 33       | SA     | 99000           |       |
|       | CEB-CMOB-4002                                   | 1000         | 33       | SA     | 66000           |       |
|       | CEB-CMOB-4003                                   | 1000         | 33       | SA     | 66000           |       |
|       | CEB-MOBL-4001                                   | 1500         | 33       | SA     | 99000           |       |
|       | CEB-MOBL-4002                                   | 1500         | 33       | SA     | 99000           |       |
|       | CEB-MOBL-4003                                   | 1500<br>1500 | 33<br>33 | SA     | 99000           |       |
|       |                                                 | 2000         | 33       | A      | 49500<br>264000 |       |
|       | CEB-MOBL-4005<br>CEB-MOBL-4008                  | 1500         | 33       | Q<br>A | 49500           |       |
|       | CEB-MOBL-4008                                   | 2000         | 33       | SA     | 132000          |       |
|       | CEB-MOBL-4011  CEB-RECN-4004                    | 1500         | 33       | Q      | 198000          |       |
|       | CEB-RECN-4004<br>CEB-SURV-4006                  | 2000         | 33       | A      | 66000           |       |
|       | CEB-SURV-4000                                   | 1000         | 66       | SA     | 132000          |       |
|       | CEB-CMOB-3001                                   | 250          | 66       | SA     | 33000           |       |
|       | CEB-CMOB-3002                                   | 1000         | 66       | SA     | 132000          |       |
|       | CEB-DEMO-3001                                   | 250          | 66       | A      | 16500           |       |
|       |                                                 | 200          |          | A      | 16500           |       |
|       |                                                 | 250          | 66       |        |                 |       |
|       | CEB-DEMO-3002                                   | 250<br>250   | 66<br>66 |        | -               |       |
|       | CEB-DEMO-3002<br>CEB-DEMO-3003                  | 250          | 66       | A      | 16500           |       |
|       | CEB-DEMO-3002<br>CEB-DEMO-3003<br>CEB-DEMO-3004 | 250<br>250   | 66<br>66 | A<br>A | 16500<br>16500  |       |
|       | CEB-DEMO-3002<br>CEB-DEMO-3003                  | 250          | 66       | A      | 16500           |       |

| •    | +                              | ļ          |          |          |                 | \       |
|------|--------------------------------|------------|----------|----------|-----------------|---------|
| M670 | <u> </u>                       | 250        |          | <u> </u> | 152000          | 1013100 |
|      | CEB-RECN-3003                  | 250        | 66       | Q        | 132000          |         |
|      | CEB-MOBL-3015                  | 250        | 66       | A        | 16500           |         |
|      | CEB-MOBL-3014                  | 250        | 66       | A A      | 16500           |         |
|      | CEB-MOBL-3011                  | 500        | 66       | Q        | 132000          |         |
|      | CEB-MOBL-3008                  | 250        | 66       | A        | 16500           |         |
|      | CEB-MOBL-3004                  | 500        | 66       | A        | 33000           |         |
|      | CEB-MOBL-3003                  | 500        | 66       | A        | 33000           |         |
|      | CEB-MOBL-3003                  | 500        | 66       | SA       | 66000           |         |
|      | CEB-DEMO-3003                  | 150        | 66       | A        | 9900            |         |
|      | CEB-DEMO-3002                  | 150        | 66       | A        | 9900            | 1       |
|      | CEB-DEMO-3001<br>CEB-DEMO-3002 | 150        | 66       | A        | 9900            |         |
|      | CEB-DEMO-3003                  | 150        | 66       | A        | 9900            |         |
|      | CEB-CMOB-3002<br>CEB-CMOB-3003 | 500        | 66       | SA<br>SA | 66000           |         |
|      | CEB-CMOB-3001                  | 500<br>125 | 33<br>66 | SA       | 33000<br>16500  |         |
|      | CEB-SURV-4006                  |            | 33       | A        | 16500           | 1       |
|      | CEB-RECN-4004                  | 500<br>500 |          | Q        | 66000           |         |
|      | CEB-MOBL-4011                  | 1000       | 33       | SA       | 66000           | 1       |
|      | CEB-MOBL-4008                  | 500        | 33       | A        | 16500           | 1       |
|      | CEB-MOBL-4005                  | 250        | 33       | Q        | 33000           |         |
|      | CEB-MOBL-4004                  | 500        | 33       | A        | 16500           |         |
|      | CEB-MOBL-4003                  | 500        | 33       | SA       | 33000           |         |
|      | CEB-MOBL-4002                  | 500        | 33       | SA       | 33000           |         |
|      | CEB-MOBL-4001                  | 500        | 33       | SA       | 33000           |         |
|      | CEB-CMOB-4003                  | 500        | 33       | SA       | 33000           |         |
|      | CEB-CMOB-4002                  | 500        | 33       | SA       | 33000           |         |
| M670 | CEB-CMOB-4001                  | 500        | 33       | SA       | 33000           |         |
|      |                                |            |          |          |                 |         |
| M591 |                                |            |          |          |                 | 17326   |
|      | CEB-RECN-3003                  | 10         | 66       | Q        | 2640            |         |
|      | CEB-MOBL-3011                  | 20         | 66       | Q        | 5280            |         |
|      | CEB-DEMO-3004                  | 6          | 66       | А        | 396             |         |
|      | CEB-DEMO-3003                  | 6          | 66       | А        | 396             |         |
|      | CEB-DEMO-3002                  | 6          | 66       | A        | 396             |         |
|      | CEB-DEMO-3001                  | 6          | 66       | А        | 396             |         |
|      | CEB-CMOB-3003                  | 10         | 66       | SA       | 1320            |         |
|      | CEB-CMOB-3002                  | 6          | 66       | SA       | 792             |         |
|      | CEB-CMOB-3001                  | 10         | 66       | SA       | 1320            |         |
|      | CEB-SURV-4006                  | 30         | 33       | A        | 990             |         |
|      | CEB-RECN-4004                  | 10         | 33       | Q        | 1320            |         |
|      | CEB-MOBL-4011                  | 20         | 33       | SA       | 1320            |         |
|      | CEB-CMOB-4003                  | 10         | 33       | SA       | 660             |         |
|      | CEB-CMOB-4002                  | 10         | 33       | SA       | 660             |         |
| M591 | CEB-CMOB-4001                  | 10         | 33       | SA       | 660             |         |
| M130 |                                |            |          |          |                 | 250700  |
| M456 | CEB-KECN-3003                  | 1000       | 00       | Q        | 204000          | 2387000 |
|      | CEB-MOBL-3015<br>CEB-RECN-3003 | 1000       | 66<br>66 | A        | 66000<br>264000 |         |
|      | CEB-MOBL-3014                  | 2000       | 66       | A        | 132000          |         |
|      | CEB-MOBL-3011                  | 1000       | 66       | Q        | 264000          |         |

| M757   | CEB-CMOB-4001 | 2             | 33  | SA   | 132      |      |
|--------|---------------|---------------|-----|------|----------|------|
| 11757  | CEB-CMOB-4002 | 6             | 33  | SA   | 396      |      |
|        | CEB-MOBL-4001 | 2             | 33  | SA   | 132      |      |
|        | CEB-MOBL-4002 | 2             | 33  | SA   | 132      |      |
|        | CEB-MOBL-4002 | 2             | 33  | SA   | 132      |      |
|        | CEB-MOBL-4003 | 2             | 33  | A    | 66       |      |
|        |               |               |     |      |          |      |
|        | CEB-MOBL-4005 | 2             | 33  | Q    | 264      |      |
|        | CEB-MOBL-4008 | 2             | 33  | A    | 66       |      |
|        | CEB-RECN-4004 | 2             | 33  | Q    | 264      |      |
|        | CEB-CMOB-3001 | 1             | 66  | SA   | 132      |      |
|        | CEB-CMOB-3002 | 2             | 66  | SA   | 264      |      |
|        | CEB-CMOB-3003 | 1             | 66  | SA   | 132      |      |
|        | CEB-DEMO-3001 | 1             | 66  | A    | 66       |      |
|        | CEB-DEMO-3002 | 1             | 66  | A    | 66       |      |
|        | CEB-DEMO-3003 | 1             | 66  | A    | 66       |      |
|        | CEB-DEMO-3004 | 1             | 66  | A    | 66       |      |
|        | CEB-MOBL-3003 | 1             | 66  | SA   | 132      |      |
|        | CEB-MOBL-3004 | 2             | 66  | A    | 132      |      |
|        | CEB-MOBL-3005 | 2             | 66  | A    | 132      |      |
|        | CEB-MOBL-3008 | 1             | 66  | А    | 66       |      |
|        | CEB-MOBL-3014 | 2             | 66  | А    | 132      |      |
|        | CEB-MOBL-3015 | 2             | 66  | A    | 132      |      |
|        | CEB-RECN-3003 | 1             | 66  | A    | 66       |      |
| M757   |               |               |     |      |          | 3150 |
| M913   | GED MODI 4001 | 1             | 2.2 | C A  | 66       |      |
| МЭТЭ   | CEB-MOBL-4001 | <u>1</u><br>1 | 33  | SA   | 66<br>66 |      |
|        | CEB-MOBL-4002 |               |     | SA   |          |      |
|        | CEB-MOBL-4003 | 1             | 33  | SA   | 66       |      |
|        | CEB-MOBL-4008 | 2             | 33  | A    | 66       |      |
|        | CEB-MOBL-3002 | 2             | 66  | A    | 132      |      |
|        | CEB-MOBL-3004 | 1             | 66  | A    | 66       |      |
|        | CEB-MOBL-3015 | 2             | 66  | A    | 132      |      |
| м913   |               |               |     |      |          | 594  |
| 2501.4 | GED MODI 4001 |               | 2.2 | G.P. | 120      |      |
| M914   | CEB-MOBL-4001 | 2             | 33  | SA   | 132      |      |
|        | CEB-MOBL-4002 | 2             | 33  | SA   | 132      |      |
|        | CEB-MOBL-4003 | 2             | 33  | SA   | 132      |      |
|        | CEB-MOBL-4008 | 1             | 33  | A    | 33       |      |
|        | CEB-MOBL-3002 | 2             | 66  | A    | 132      |      |
|        | CEB-MOBL-3004 | 2             | 66  | A    | 132      |      |
| M914   |               |               |     |      |          | 693  |
| M982   | CEB-DEMO-3001 | 6             | 66  | A    | 396      |      |
|        | CEB-DEMO-3002 | 6             | 66  | A    | 396      |      |
|        | CEB-DEMO-3003 | 6             | 66  | A    | 396      |      |
|        | CEB-DEMO-3004 | 6             | 66  | A    | 396      |      |
|        | CEB-MOBL-3003 | 1             | 66  | SA   | 132      |      |
| M982   | CED MODE 3003 |               |     | DA   | 102      | 1716 |
|        |               |               |     |      |          |      |
| ML03   | CEB-CMOB-4001 | 2             | 33  | SA   | 132      |      |
|        | CEB-CMOB-4002 | 12            | 33  | SA   | 792      |      |

|       | CEB-CMOB-4003  | 6   | 33  | SA  | 396  |      |
|-------|----------------|-----|-----|-----|------|------|
|       | CEB-MOBL-4001  | 2   | 33  | SA  | 132  |      |
|       | CEB-MOBL-4002  | 2   | 33  | SA  | 132  |      |
|       | CEB-MOBL-4003  | 2   | 33  | SA  | 132  |      |
|       | CEB-MOBL-4004  | 2   | 33  | A   | 66   |      |
|       | CEB-MOBL-4008  | 2   | 33  | A   | 66   |      |
|       | CEB-MOBL-4011  | 10  | 33  | SA  | 660  |      |
|       | CEB-RECN-4004  | 2   | 66  | Q   | 528  |      |
|       | CEB-SURV-4006  | 10  | 33  | A   | 330  |      |
|       | CEB-CMOB-3002  | 4   | 66  | SA  | 528  |      |
|       | CEB-MOBL-3015  | 2   | 66  | A   | 132  |      |
| ML03  |                |     |     |     |      | 4026 |
| 10120 | GED DEMO 2001  | 4   |     | 7   | 264  |      |
| MM30  | CEB-DEMO-3001  | 4   | 66  | A   | 264  |      |
|       | CEB-DEMO-3002  | 4   | 66  | A   | 264  |      |
|       | CEB-DEMO-3003  | 4   | 66  | A   | 264  |      |
|       | CEB-DEMO-3004  | 4   | 66  | A   | 264  | 10-6 |
| MM30  |                |     |     |     | _    | 1056 |
| MM44  | CEB-DEMO-3001  | 1   | 66  | A   | 66   |      |
|       | CEB-DEMO-3002  | 1   | 66  | A   | 66   |      |
|       | CEB-DEMO-3003  | 1   | 66  | A   | 66   |      |
|       | CEB-DEMO-3004  | 1   | 66  | A   | 66   |      |
| MM44  | CED DEFIC SCOT |     |     |     |      | 264  |
|       |                |     |     |     |      |      |
| MM45  | CEB-DEMO-3001  | 1   | 66  | А   | 66   |      |
|       | CEB-DEMO-3002  | 1   | 66  | А   | 66   |      |
|       | CEB-DEMO-3003  | 1   | 66  | А   | 66   |      |
|       | CEB-DEMO-3004  | 1   | 66  | А   | 66   |      |
| MM45  |                |     |     |     |      | 264  |
| 20147 | GED DEMO 2001  | 1   |     | 7   |      |      |
| MM47  | CEB-DEMO-3001  | 1   | 66  | A   | 66   |      |
|       | CEB-DEMO-3002  | 1   | 66  | A   | 66   |      |
|       | CEB-DEMO-3003  | 1   | 66  | A   | 66   |      |
|       | CEB-DEMO-3004  | 1   | 66  | A   | 66   |      |
|       | CEB-MOBL-3003  | 5   | 66  | SA  | 660  | 924  |
|       |                |     |     |     |      | 924  |
| MM48  | CEB-DEMO-3001  | 1   | 66  | A   | 66   |      |
|       | CEB-DEMO-3002  | 1   | 66  | A   | 66   |      |
|       | CEB-DEMO-3003  | 1   | 66  | A   | 66   |      |
|       | CEB-DEMO-3004  | 1   | 66  | A   | 66   |      |
| MM48  |                |     |     |     |      | 264  |
|       |                |     |     |     |      |      |
| MM56  | CEB-MOBL-3003  | 10  | 66  | SA  | 1320 | 1320 |
| 10100 | GED GMOD 4001  | 2.5 | 2.2 | C A | 2210 |      |
| MN08  | CEB-CMOB-4001  | 35  | 33  | SA  | 2310 |      |
|       | CEB-CMOB-4002  | 12  | 33  | SA  | 792  |      |
|       | CEB-CMOB-4003  | 6   | 33  | SA  | 396  |      |
|       | CEB-MOBL-4001  | 35  | 33  | SA  | 2310 |      |
|       | CEB-MOBL-4002  | 35  | 33  | SA  | 2310 |      |
|       | CEB-MOBL-4003  | 35  | 33  | SA  | 2310 |      |

|        | CEB-MOBL-4004                  | 35  | 33       | А        | 1155       |       |
|--------|--------------------------------|-----|----------|----------|------------|-------|
|        | CEB-MOBL-4005                  | 25  | 33       | Q        | 3300       |       |
|        | CEB-MOBL-4008                  | 35  | 33       | A        | 1155       |       |
|        | CEB-MOBL-4011                  | 30  | 33       | SA       | 1980       |       |
|        | CEB-RECN-4004                  | 35  | 33       | Q        | 4620       |       |
|        | CEB-RECN-4004<br>CEB-SURV-4006 | 20  | 33       | A        | 660        |       |
|        | CEB-CMOB-3001                  | 20  | 66       | SA       | 2640       |       |
|        | CEB-CMOB-3001                  | 6   | 66       | SA       | 792        |       |
|        | CEB-CMOB-3002                  | 20  | 66       | SA       | 2640       |       |
|        | CEB-CMOB-3003                  | 15  | 66       | A        | 990        |       |
|        | CEB-DEMO-3001                  | 15  | 66       | A        | 990        |       |
|        | CEB-DEMO-3002                  | 15  | 66       | A        | 990        |       |
|        | CEB-DEMO-3003                  | 15  | 66       | A        | 990        |       |
|        | CEB-MOBL-3003                  | 40  | 66       | SA       | 5280       |       |
|        | CEB-MOBL-3003                  | 100 | 66       |          | 6600       |       |
|        | CEB-MOBL-3004                  | 100 | 66       | A<br>A   | 6600       |       |
|        | CEB-MOBL-3008                  | 5   | 66       | A        | 330        |       |
|        | CEB-MOBL-3008                  | 10  | 66       |          | 2640       |       |
|        |                                | 2   | 66       | Q        | 132        |       |
|        | CEB-MOBL-3014                  | 17  | 66       | A        | 1122       |       |
|        | CEB-MOBL-3015                  | 20  | 66       | A        | 5280       |       |
| MN08   | CEB-RECN-3003                  | 20  | 00       | Q        | 5260       | 61394 |
| МИОО   |                                |     |          |          |            | 61394 |
| MN14   | GED GMOD 4000                  | 1.0 | 2.2      | C 7      | 700        |       |
| MNT4   | CEB-CMOB-4002                  | 12  | 33<br>66 | SA<br>SA | 792<br>528 |       |
|        | CEB-CMOB-3002<br>CEB-MOBL-3003 | 2   | 66       | SA       | 264        |       |
| MN14   | CEP-MOPT-2002                  | ۷   | 00       | 5A       | 204        | 1584  |
| IIIIT  |                                |     |          |          |            | 1304  |
| MN52   | CEB-CMOB-4002                  | 8   | 33       | SA       | 528        |       |
| MUZ    | CEB-MOBL-4008                  | 10  | 33       | A        | 330        |       |
|        | CEB-MOBL-4011                  | 10  | 33       | SA       | 660        |       |
|        | CEB-MOBL-4011<br>CEB-SURV-4006 | 10  | 33       | A        | 330        |       |
|        | CEB-SORV-4000                  | 4   | 66       | SA       | 528        |       |
|        | CEB-MOBL-3008                  | 6   | 66       | A        | 396        |       |
|        | CEB-MOBL-3008                  | 10  | 66       |          | 2640       |       |
|        | CEB-MOBL-3011                  | 10  | 66       | Q<br>A   | 660        |       |
| MN52   | CEP-MOPT-2012                  | 10  | 00       | A        | 000        | 6402  |
| МИЗZ   |                                |     |          |          |            | 0402  |
| MN79   | CED_MODT 4001                  | 1   | 33       | CA       | 66         |       |
| ти / Э | CEB-MOBL-4001<br>CEB-MOBL-4002 | 1   | 33       | SA       | 66         |       |
|        |                                |     |          | SA       |            |       |
|        | CEB-MOBL-4003<br>CEB-MOBL-4008 | 1   | 33       | SA       | 66         |       |
|        |                                | 1   | 33       | A        | 33         |       |
|        | CEB-MOBL-3004                  | 1   | 66       | A        | 66         |       |
| 10170  | CEB-MOBL-3015                  | 1   | 66       | A        | 66         | 262   |
| MN79   |                                |     |          |          |            | 363   |
| 10100  | CED MODE 4005                  | _   | 22       |          | 660        |       |
| MN88   | CEB-MOBL-4005                  | 5   | 33       | Q        | 660        |       |
|        | CEB-MOBL-3004                  | 5   | 66       | A        | 330        |       |
|        | CEB-MOBL-3005                  | 10  | 66       | A        | 660        |       |
|        | CEB-MOBL-3008                  | 5   | 66       | A        | 330        |       |
|        | CEB-MOBL-3014                  | 5   | 66       | A        | 330        |       |
| MN88   |                                |     |          |          |            | 2310  |

| MN90 | CEB-MOBL-4005 | 10 | 33 | Q | 1320 |      |
|------|---------------|----|----|---|------|------|
|      | CEB-MOBL-3004 | 10 | 66 | A | 660  |      |
|      | CEB-MOBL-3005 | 10 | 66 | A | 660  |      |
|      | CEB-MOBL-3008 | 10 | 66 | A | 660  |      |
|      | CEB-MOBL-3014 | 10 | 66 | A | 660  |      |
| MN90 |               |    |    |   |      | 3960 |

|       | C007. DIRECT SUPPORT COMBAT LOGISTICS BATTALION, SUSTAINMENT/PROFICIENCY ALLOCATIONS |               |                                      |                         |                 |                |  |  |
|-------|--------------------------------------------------------------------------------------|---------------|--------------------------------------|-------------------------|-----------------|----------------|--|--|
| DODIC | EVENT                                                                                | QTY           | # OF<br>TEAMS,<br>SQUADS,<br>OR PLTS | SUSTAINMENT<br>INTERVAL | ANNUAL<br>TOTAL | DODIC<br>TOTAL |  |  |
| J007  | CLB-CMOB-3001                                                                        | 2             | 3                                    | SA                      | 12              | 12             |  |  |
|       |                                                                                      |               |                                      |                         |                 |                |  |  |
| J143  | CLB-MOBL-4003                                                                        | 3             | 3                                    | A                       | 9               |                |  |  |
|       | CLB-MOBL-4005                                                                        | 4             | 3                                    | A                       | 12              |                |  |  |
| J143  |                                                                                      |               |                                      |                         |                 | 21             |  |  |
| T 405 | GIR GMOD 4001                                                                        | A             | 2                                    |                         | 0.4             |                |  |  |
| L495  | CLB-CMOB-4001                                                                        | 4             | 3                                    | SA                      | 24              |                |  |  |
|       | CLB-CMOB-4002                                                                        | 6             | 3                                    | SA                      | 36              |                |  |  |
|       | CLB-RECN-4002<br>CLB-CMOB-3002                                                       | <u>4</u><br>2 | 10                                   | A                       | 12<br>80        |                |  |  |
| L495  | CTD-CMOR-2007                                                                        | ۷             | 10                                   | Q                       | 60              | 152            |  |  |
| п493  |                                                                                      |               |                                      |                         |                 | 132            |  |  |
| L598  | CLB-CMOB-4001                                                                        | 4             | 3                                    | SA                      | 24              |                |  |  |
|       | CLB-RECN-4002                                                                        | 4             | 3                                    | A                       | 12              |                |  |  |
|       | CLB-CMOB-3002                                                                        | 10            | 10                                   | SA                      | 200             |                |  |  |
| L598  | CED C110D 300E                                                                       |               | 10                                   | 511                     | 200             | 236            |  |  |
|       |                                                                                      |               |                                      |                         |                 |                |  |  |
| M023  | CLB-CMOB-4003                                                                        | 20            | 3                                    | SA                      | 120             |                |  |  |
|       | CLB-MOBL-4011                                                                        | 30            | 3                                    | SA                      | 180             |                |  |  |
|       | CLB-SURV-4006                                                                        | 20            | 3                                    | А                       | 60              |                |  |  |
|       | CLB-CMOB-3001                                                                        | 20            | 10                                   | SA                      | 400             |                |  |  |
|       | CLB-CMOB-3003                                                                        | 10            | 10                                   | Q                       | 400             |                |  |  |
|       | CLB-MOBL-3001                                                                        | 10            | 10                                   | A                       | 100             |                |  |  |
| M023  |                                                                                      |               |                                      |                         |                 | 1260           |  |  |
|       |                                                                                      |               |                                      |                         |                 |                |  |  |
| M028  | CLB-MOBL-4003                                                                        | 1             | 3                                    | А                       | 3               |                |  |  |
|       | CLB-DEMO-3001                                                                        | 1             | 10                                   | A                       | 10              |                |  |  |
|       | CLB-DEMO-3002                                                                        | 1             | 10                                   | A                       | 10              |                |  |  |
|       | CLB-DEMO-3003                                                                        | 1             | 10                                   | A                       | 10              |                |  |  |
|       | CLB-DEMO-3004                                                                        | 1             | 10                                   | A                       | 10              |                |  |  |
| M028  |                                                                                      |               |                                      |                         |                 | 43             |  |  |
| 26020 | GIP GMOD 2000                                                                        | 4             | 1.0                                  |                         | 1.60            | 1.00           |  |  |
| м030  | CLB-CMOB-3003                                                                        | 4             | 10                                   | Q                       | 160             | 160            |  |  |
| MOSS  | GID GMOD 4001                                                                        | 1 0           | 2                                    | C 7                     | 6.0             |                |  |  |
| M032  | CLB-CMOB-4001<br>CLB-CMOB-4002                                                       | 10<br>12      | 3                                    | SA                      | 60<br>72        |                |  |  |
|       | CLB-CMOB-4002<br>CLB-CMOB-4003                                                       | 10            | 3                                    | SA<br>SA                | 60              |                |  |  |
|       |                                                                                      |               | 3                                    |                         |                 |                |  |  |
|       | CLB-MOBL-4003                                                                        | 10            | 3                                    | A                       | 30              |                |  |  |

|      |               |    |    |    | •   |      |
|------|---------------|----|----|----|-----|------|
|      | CLB-MOBL-4004 | 10 | 3  | Q  | 120 |      |
|      | CLB-MOBL-4011 | 30 | 3  | SA | 180 |      |
|      | CLB-RECN-4002 | 10 | 3  | A  | 30  |      |
|      | CLB-SURV-4006 | 20 | 3  | A  | 60  |      |
|      | CLB-CMOB-3001 | 6  | 10 | SA | 120 |      |
|      | CLB-CMOB-3002 | 4  | 10 | Q  | 160 |      |
|      | CLB-DEMO-3001 | 3  | 10 | А  | 30  |      |
|      | CLB-DEMO-3002 | 3  | 10 | А  | 30  |      |
|      |               |    |    |    |     |      |
|      | CLB-DEMO-3003 | 3  | 10 | А  | 30  |      |
|      | CLB-DEMO-3004 | 3  | 10 | А  | 30  |      |
|      | CLB-MOBL-3001 | 10 | 10 | А  | 100 |      |
|      | CLB-RECN-3002 | 20 | 10 | Q  | 800 |      |
| M032 |               |    |    |    |     | 1912 |
|      |               |    |    |    |     |      |
| м039 | CLB-CMOB-4001 | 1  | 3  | SA | 6   |      |
|      | CLB-CMOB-4002 | 12 | 3  | SA | 72  |      |
|      | CLB-CMOB-4003 | 10 | 3  | SA | 60  |      |
|      | CLB-RECN-4002 | 1  | 3  | А  | 3   |      |
|      | CLB-CMOB-3002 | 4  | 10 | Q  | 160 |      |
|      | CLB-DEMO-3001 | 3  | 10 | A  | 30  |      |
|      | CLB-DEMO-3002 | 3  | 10 | А  | 30  |      |
|      | CLB-DEMO-3003 | 3  | 10 | А  | 30  |      |
|      | CLB-DEMO-3004 | 3  | 10 | А  | 30  |      |
|      | CLB-RECN-3002 | 1  | 3  | А  | 3   |      |
| M039 |               |    |    |    |     | 421  |
|      |               |    |    |    |     |      |
| M130 | CLB-CMOB-4001 | 10 | 3  | SA | 60  |      |
|      | CLB-CMOB-4002 | 12 | 3  | SA | 72  |      |
|      | CLB-CMOB-4003 | 6  | 3  | SA | 36  |      |
|      | CLB-MOBL-4003 | 10 | 3  | А  | 30  |      |
|      | CLB-MOBL-4004 | 30 | 3  | Q  | 360 |      |
|      | CLB-MOBL-4011 | 10 | 3  | SA | 60  |      |
|      | CLB-RECN-4002 | 10 | 3  | А  | 30  |      |
|      | CLB-SURV-4006 | 10 | 3  | A  | 30  |      |
|      | CLB-CMOB-3002 | 6  | 10 | Q  | 240 |      |
|      | CLB-CMOB-3003 | 4  | 10 | Q  | 160 |      |
|      | CLB-DEMO-3001 | 5  | 10 | Ā  | 50  |      |
|      | CLB-DEMO-3002 | 5  | 10 | A  | 50  |      |
|      | CLB-DEMO-3003 | 5  | 10 | A  | 50  |      |
|      | CLB-DEMO-3004 | 5  | 10 | A  | 50  |      |
|      | CLB-MOBL-3001 | 6  | 10 | A  | 60  |      |
|      | CLB-RECN-3002 | 20 | 10 | Q  | 800 |      |
| M130 |               | -  |    |    |     | 2138 |
|      |               |    |    |    |     |      |
| M131 | CLB-CMOB-4001 | 20 | 3  | SA | 120 |      |
| -    | CLB-CMOB-4002 | 12 | 3  | SA | 72  |      |
|      | CLB-CMOB-4003 | 6  | 3  | SA | 36  |      |
|      | CLB-MOBL-4003 | 20 | 3  | A  | 60  |      |
|      | CLB-MOBL-4011 | 20 | 3  | SA | 120 |      |
|      | CLB-RECN-4002 | 20 | 3  | A  | 60  |      |
|      | CLB-SURV-4006 | 20 | 3  | A  | 60  |      |
|      | CTD-20KV-4000 | ۷∠ | ٥  | A  | 00  | 1    |

|      | 1                              |      |    | 1  |       |        |
|------|--------------------------------|------|----|----|-------|--------|
| M456 |                                |      |    |    |       | 277000 |
|      | CLB-RECN-3002                  | 1000 | 10 | Q  | 40000 |        |
|      | CLB-MOBL-3001                  | 1000 | 10 | А  | 10000 |        |
|      | CLB-DEMO-3004                  | 5000 | 10 | А  | 50000 |        |
|      | CLB-DEMO-3003                  | 500  | 10 | А  | 5000  |        |
|      | CLB-DEMO-3002                  | 2000 | 10 | А  | 20000 |        |
|      | CLB-DEMO-3001                  | 1000 | 10 | A  | 10000 |        |
|      | CLB-CMOB-3003                  | 1000 | 10 | Q  | 40000 |        |
|      | CLB-CMOB-3002                  | 250  | 10 | Q  | 10000 |        |
|      | CLB-CMOB-3001                  | 1000 | 10 | SA | 20000 |        |
|      | CLB-SURV-4006                  | 2000 | 3  | A  | 6000  |        |
|      | CLB-RECN-4002                  | 1500 | 3  | A  | 4500  |        |
|      | CLB-MOBL-4011                  | 2000 | 3  | SA | 12000 |        |
|      | CLB-MOBL-4004                  | 2000 | 3  | Q  | 24000 |        |
|      | CLB-MOBL-4003                  | 1500 | 3  | A  | 4500  |        |
|      | CLB-CMOB-4003                  | 1000 | 3  | SA | 6000  |        |
|      | CLB-CMOB-4002                  | 1000 | 3  | SA | 6000  |        |
| M456 | CLB-CMOB-4001                  | 1500 | 3  | SA | 9000  |        |
|      |                                |      |    |    |       |        |
| M421 |                                |      | -  | ~  | -     | 317    |
|      | CLB-RECN-3002                  | 1    | 10 | Q  | 40    |        |
|      | CLB-CMOB-3002                  | 4    | 10 | Q  | 160   |        |
|      | CLB-RECN-4002                  | 1    | 3  | A  | 3     |        |
|      | CLB-CMOB-4003                  | 10   | 3  | SA | 60    |        |
|      | CLB-CMOB-4002                  | 8    | 3  | SA | 48    |        |
| M421 | CLB-CMOB-4001                  | 1    | 3  | SA | 6     |        |
|      |                                |      |    |    |       |        |
| M420 |                                |      | -  | ~  |       | 119    |
|      | CLB-RECN-3002                  | 1    | 10 | Q  | 40    |        |
|      | CLB-DEMO-3004                  | 1    | 10 | А  | 10    |        |
|      | CLB-DEMO-3003                  | 1    | 10 | А  | 10    |        |
|      | CLB-DEMO-3002                  | 1    | 10 | А  | 10    |        |
|      | CLB-DEMO-3001                  | 1    | 10 | А  | 10    |        |
|      | CLB-RECN-4002                  | 1    | 3  | A  | 3     |        |
|      | CLB-CMOB-4003                  | 5    | 3  | SA | 30    |        |
| M420 | CLB-CMOB-4001                  | 1    | 3  | SA | 6     |        |
|      |                                |      |    |    |       |        |
| M327 |                                |      |    | ~  |       | 512    |
|      | CLB-CMOB-3002                  | 6    | 10 | Q  | 240   |        |
|      | CLB-CMOB-3001                  | 10   | 10 | SA | 200   |        |
| M327 | CLB-CMOB-4002                  | 12   | 3  | SA | 72    |        |
|      |                                |      |    |    |       |        |
| M131 |                                |      |    | ~  |       | 1258   |
|      | CLB-RECN-3002                  | 10   | 10 | Q  | 400   |        |
|      | CLB-MOBL-3001                  | 6    | 10 | A  | 60    |        |
|      | CLB-DEMO-3004                  | 5    | 10 | A  | 50    |        |
|      | CLB-DEMO-3003                  | 5    | 10 | A  | 50    |        |
|      | CLB-DEMO-3002                  | 5    | 10 | A  | 50    |        |
|      | CLB-CMOB-3003<br>CLB-DEMO-3001 | 5    | 10 | A  | 50    |        |
|      | CLB-CMOB-3003                  | 4    | 10 | Q  | 160   |        |

|        |                                | ,    |          | 1   | <u>,                                      </u> |       |
|--------|--------------------------------|------|----------|-----|------------------------------------------------|-------|
| M591   | CLB-CMOB-4001                  | 10   | 3        | SA  | 60                                             |       |
|        | CLB-CMOB-4002                  | 10   | 3        | SA  | 60                                             |       |
|        | CLB-CMOB-4003                  | 10   | 3        | SA  | 60                                             |       |
|        | CLB-MOBL-4011                  | 20   | 3        | SA  | 120                                            |       |
|        | CLB-RECN-4002                  | 10   | 3        | А   | 30                                             |       |
|        | CLB-SURV-4006                  | 20   | 3        | А   | 60                                             |       |
|        | CLB-CMOB-3002                  | 6    | 10       | Q   | 240                                            |       |
|        | CLB-DEMO-3001                  | 6    | 10       | A A | 60                                             |       |
|        | CLB-DEMO-3002                  | 6    | 10       | А   | 60                                             |       |
|        | CLB-DEMO-3003                  | 6    | 10       | А   | 60                                             |       |
|        | CLB-DEMO-3004                  | 6    | 10       | А   | 60                                             |       |
|        | CLB-MOBL-3001                  | 20   | 10       | А   | 200                                            |       |
|        | CLB-RECN-3002                  | 10   | 10       | Q   | 400                                            |       |
| M591   | CLD RECK SOUL                  | 10   | 10       | ×   | 100                                            | 1470  |
|        |                                |      |          |     |                                                |       |
| M670   | CLB-CMOB-4001                  | 500  | 3        | SA  | 3000                                           |       |
|        | CLB-CMOB-4002                  | 500  | 3        | SA  | 3000                                           |       |
|        | CLB-CMOB-4003                  | 500  | 3        | SA  | 3000                                           |       |
|        | CLB-MOBL-4003                  | 500  | 3        | A   | 1500                                           |       |
|        | CLB-MOBL-4004                  | 250  | 3        | Q   | 3000                                           |       |
|        | CLB-MOBL-4011                  | 1000 | 3        | SA  | 6000                                           |       |
|        | CLB-RECN-4002                  | 500  | 3        | A   | 1500                                           |       |
|        | CLB-SURV-4006                  | 500  | 3        | A   | 1500                                           |       |
|        | CLB-CMOB-3002                  | 125  | 10       | Q   | 5000                                           |       |
|        | CLB-DEMO-3001                  | 150  | 10       | A   | 1500                                           |       |
|        | CLB-DEMO-3001                  | 150  | 10       | A   | 1500                                           |       |
|        | CLB-DEMO-3002                  | 150  | 10       | A   | 1500                                           |       |
|        | CLB-DEMO-3003                  | 150  | 10       | A   | 1500                                           |       |
|        | CLB-DEMO-3004<br>CLB-MOBL-3001 | 500  | 10       | A   | 5000                                           |       |
|        | CLB-MOBL-3001<br>CLB-RECN-3002 | 500  | 10       | Q   | 20000                                          |       |
| M670   | CLB-RECN-3002                  | 300  | 10       | Q   | 20000                                          | 63500 |
| M6 / U |                                |      |          |     |                                                | 63300 |
| M757   | CLB-CMOB-4001                  | 2    | 3        | SA  | 12                                             |       |
| 117.57 | CLB-CMOB-4002                  | 6    | 3        | SA  | 36                                             |       |
|        | CLB-MOBL-4003                  | 2    | 3        | A   | 6                                              |       |
|        | CLB-MOBL-4004                  | 2    | 3        | Q   | 24                                             |       |
|        | CLB-RECN-4002                  | 2    | 3        | A   | 6                                              |       |
|        | CLB-CMOB-3002                  | 2    | 10       | Q   | 80                                             |       |
|        | CLB-CMOB-3002<br>CLB-DEMO-3001 | 1    | 10       | A   | 10                                             |       |
|        | CLB-DEMO-3001<br>CLB-DEMO-3002 | 1    | 10       | A   | 10                                             |       |
|        | CLB-DEMO-3002<br>CLB-DEMO-3003 | 1    | 10       |     | 10                                             |       |
|        | CLB-DEMO-3003                  | 1    | 10       | A   | 10                                             |       |
| M757   | CLB-DEMO-3004                  | Т.   | 10       | A   | 10                                             | 180   |
| m/3/   | +                              |      |          |     |                                                | 100   |
| м913   | CLB-MOBL-4003                  | 2    | 3        | A   | 6                                              |       |
| 11717  | CLB-MOBL-4005                  | 1    | 3        | A   | 3                                              |       |
| м913   | CHD 11001 1000                 |      | <u> </u> | A   | J                                              | 9     |
|        |                                |      |          |     |                                                | -     |
| M914   | CLB-MOBL-4003                  | 1    | 3        | A   | 3                                              |       |
|        | CLB-MOBL-4005                  | 2    | 3        | А   | 6                                              |       |
| M914   |                                |      |          |     |                                                | 9     |
|        |                                |      |          |     |                                                |       |

|        |                                |     | _   | T  |     |     |
|--------|--------------------------------|-----|-----|----|-----|-----|
| M982   | CLB-DEMO-3001                  | 6   | 10  | A  | 60  |     |
|        | CLB-DEMO-3002                  | 6   | 10  | A  | 60  |     |
|        | CLB-DEMO-3003                  | 6   | 10  | A  | 60  |     |
|        | CLB-DEMO-3004                  | 6   | 10  | A  | 60  |     |
| м982   |                                |     |     |    |     | 240 |
| ML03   | CLB-CMOB-4001                  | 2   | 3   | SA | 12  |     |
| 111103 | CLB-CMOB-4002                  | 12  | 3   | SA | 72  |     |
|        | CLB-CMOB-4003                  | 6   | 3   | SA | 36  |     |
|        | CLB-MOBL-4003                  | 2   | 3   | A  | 6   |     |
|        | CLB-MOBL-4011                  | 10  | 3   | SA | 60  |     |
|        | CLB-RECN-4002                  | 2   | 10  | A  | 20  |     |
|        | CLB-SURV-4006                  | 10  | 3   | A  | 30  |     |
|        | CLB-CMOB-3001                  | 10  | 3   | SA | 60  |     |
|        | CLB-CMOB-3001                  | 4   | 10  |    | 160 |     |
|        | CLB-CMOB-3002<br>CLB-CMOB-3003 | 4   | 10  | Q  | 160 |     |
| ML03   | CLD-CMOD-3003                  | - 1 | 10  | Q  | 100 | 616 |
| мьоз   |                                |     |     |    |     | 916 |
| MM30   | CLB-DEMO-3001                  | 4   | 10  | A  | 40  |     |
| тито   | CLB-DEMO-3001<br>CLB-DEMO-3002 | 4   | 10  | A  | 40  |     |
|        | CLB-DEMO-3002<br>CLB-DEMO-3003 | 4   | 10  | A  | 40  |     |
|        | CLB-DEMO-3003                  | 4   | 10  |    | 40  |     |
| MM30   | CLB-DEMO-3004                  | 4   | 10  | A  | 40  | 160 |
| MM30   |                                |     |     |    |     | 160 |
| MM44   | CLB-DEMO-3001                  | 1   | 10  | A  | 10  |     |
|        | CLB-DEMO-3002                  | 1   | 10  | А  | 10  |     |
|        | CLB-DEMO-3003                  | 1   | 10  | A  | 10  |     |
|        | CLB-DEMO-3004                  | 1   | 10  | A  | 10  |     |
| MM44   |                                |     |     |    |     | 40  |
|        |                                |     |     |    |     |     |
| MM45   | CLB-DEMO-3001                  | 1   | 10  | А  | 10  |     |
|        | CLB-DEMO-3002                  | 1   | 10  | А  | 10  |     |
|        | CLB-DEMO-3003                  | 1   | 10  | А  | 10  |     |
|        | CLB-DEMO-3004                  | 1   | 10  | А  | 10  |     |
| MM45   |                                |     |     |    |     | 40  |
| 20545  | GT 7 7710 2001                 | 1   | 1.0 | _  | 1.0 |     |
| MM47   | CLB-DEMO-3001                  | 1   | 10  | A  | 10  |     |
|        | CLB-DEMO-3002                  | 1   | 10  | A  | 10  |     |
|        | CLB-DEMO-3003                  | 1   | 10  | A  | 10  |     |
|        | CLB-DEMO-3004                  | 1   | 10  | A  | 10  |     |
| MM47   |                                |     |     |    |     | 40  |
| MM48   | CLB-DEMO-3001                  | 1   | 10  | A  | 10  |     |
|        | CLB-DEMO-3002                  | 1   | 10  | A  | 10  |     |
|        | CLB-DEMO-3003                  | 1   | 10  | A  | 10  |     |
|        | CLB-DEMO-3004                  | 1   | 10  | A  | 10  |     |
| MM48   | 322 22.10 3001                 |     | 10  | 11 | 10  | 40  |
|        |                                |     |     |    |     |     |
| MN08   | CLB-CMOB-4001                  | 35  | 3   | SA | 210 | -   |
|        | CLB-CMOB-4002                  | 12  | 3   | SA | 72  |     |
|        | CLB-CMOB-4003                  | 6   | 3   | SA | 36  |     |
|        | CLB-MOBL-4003                  | 35  | 3   | А  | 105 |     |

|      | CLB-MOBL-4004 | 25 | 3  | Q  | 300 |      |
|------|---------------|----|----|----|-----|------|
|      | CLB-MOBL-4011 | 30 | 3  | SA | 180 |      |
|      | CLB-RECN-4002 | 12 | 3  | A  | 105 |      |
|      | CLB-SURV-4006 | 20 | 3  | A  | 60  |      |
|      | CLB-CMOB-3002 | 6  | 10 | Q  | 240 |      |
|      | CLB-DEMO-3001 | 15 | 10 | Ā  | 150 |      |
|      | CLB-DEMO-3002 | 15 | 10 | A  | 150 |      |
|      | CLB-DEMO-3003 | 15 | 10 | A  | 150 |      |
|      | CLB-DEMO-3004 | 15 | 10 | A  | 150 |      |
|      | CLB-MOBL-3001 | 10 | 10 | A  | 100 |      |
|      | CLB-RECN-3002 | 20 | 10 | Q  | 800 |      |
| MN08 |               |    |    |    |     | 2808 |
|      |               |    |    |    |     |      |
| MN14 | CLB-CMOB-4002 | 12 | 3  | SA | 72  |      |
|      | CLB-CMOB-3002 | 4  | 10 | Q  | 160 |      |
| MN14 |               |    |    |    |     | 232  |
|      |               |    |    |    |     |      |
| MN52 | CLB-CMOB-4002 | 12 | 3  | SA | 72  |      |
|      | CLB-CMOB-3002 | 4  | 10 | Q  | 160 |      |
| MN52 |               |    |    |    |     | 232  |
|      |               |    |    |    |     |      |
| MN79 | CLB-MOBL-4005 | 1  | 3  | А  | 3   | 3    |
|      |               |    |    |    |     |      |
| MN88 | CLB-MOBL-4004 | 5  | 3  | Q  | 60  | 60   |
|      |               |    |    |    |     |      |
| MN90 | CLB-MOBL-4004 | 10 | 3  | Q  | 120 | 120  |

| C008. | ENGINEER SUPPORT | BATTALIO | N, SUSTAINME | NT/PROFICIENCY | ALLOCATIO | ns    |
|-------|------------------|----------|--------------|----------------|-----------|-------|
| DODIC | EVENT            | QTY      | # OF         | SUSTAINMENT    | ANNUAL    | DODIC |
|       |                  |          | TEAMS,       | INTERVAL       | TOTAL     | TOTAL |
|       |                  |          | SQUADS, OR   |                |           |       |
|       |                  |          | PLTS         |                |           |       |
| J007  | ESB-CMOB-4001    | 2        | 12           | SA             | 48        |       |
|       | ESB-CMOB-3001    | 2        | 48           | SA             | 192       |       |
| J007  |                  |          |              |                |           | 240   |
|       |                  |          |              |                |           |       |
| J143  | ESB-MOBL-4003    | 3        | 12           | А              | 36        |       |
|       | ESB-MOBL-4005    | 4        | 12           | А              | 48        |       |
|       | ESB-MOBL-3005    | 4        | 48           | А              | 192       |       |
| J143  |                  |          |              |                |           | 276   |
|       |                  |          |              |                |           |       |
| L495  | ESB-CMOB-4001    | 4        | 12           | SA             | 96        |       |
|       | ESB-CMOB-4002    | 6        | 12           | SA             | 144       |       |
|       | ESB-RECN-4002    | 4        | 12           | А              | 48        |       |
|       | ESB-CMOB-3002    | 2        | 48           | Q              | 192       |       |
| L495  |                  |          |              |                |           | 480   |
|       |                  |          |              |                |           |       |
| L598  | ESB-CMOB-4001    | 4        | 12           | SA             | 96        |       |
|       | ESB-RECN-4002    | 4        | 12           | А              | 48        |       |
| _     | ESB-CMOB-3001    | 10       | 48           | SA             | 960       |       |
| L598  |                  |          |              |                |           | 1104  |
|       |                  |          |              |                |           |       |

| 34000 | EGD GMOD 4003 | 20 1 | 1.0 | CA     | 1 400 |      |
|-------|---------------|------|-----|--------|-------|------|
| M023  | ESB-CMOB-4003 | 20   | 12  | SA     | 480   |      |
|       | ESB-MOBL-4010 | 30   | 12  | SA     | 720   |      |
|       | ESB-SURV-4006 | 20   | 12  | A      | 240   |      |
|       | ESB-CMOB-3001 | 20   | 48  | SA     | 1920  |      |
|       | ESB-CMOB-3003 | 10   | 48  | Q      | 1920  |      |
|       | ESB-MOBL-3004 | 10   | 48  | Q      | 1920  |      |
| M023  |               |      |     |        |       | 7200 |
| M028  | ESB-MOBL-4003 | 1    | 12  | A      | 12    |      |
|       | ESB-DEMO-3001 | 1    | 48  | А      | 48    |      |
|       | ESB-DEMO-3002 | 1    | 48  | A      | 48    |      |
|       | ESB-DEMO-3003 | 1    | 48  | A      | 48    |      |
|       | ESB-DEMO-3004 | 1    | 48  | А      | 48    |      |
|       | ESB-MOBL-3005 | 1    | 48  | А      | 48    |      |
| M028  |               |      |     |        |       | 252  |
|       |               |      |     |        |       |      |
| M030  | ESB-CMOB-3003 | 4    | 48  | Q      | 768   | 768  |
| M032  | ESB-CMOB-4001 | 10   | 12  | SA     | 240   |      |
|       | ESB-CMOB-4001 | 12   | 12  | SA     | 288   |      |
|       | ESB-CMOB-4003 | 10   | 12  | SA     | 240   |      |
|       | ESB-MOBL-4003 | 10   | 12  | A      | 120   |      |
|       | ESB-MOBL-4004 | 10   | 12  | Q      | 480   |      |
|       | ESB-MOBL-4010 | 30   | 12  | <br>SA | 720   |      |
|       | ESB-RECN-4002 | 10   | 12  | A      | 120   |      |
|       | ESB-SURV-4006 | 20   | 12  | A      | 240   |      |
|       | ESB-CMOB-3001 | 6    | 48  | SA     | 576   |      |
|       | ESB-CMOB-3002 | 4    | 48  | Q      | 768   |      |
|       | ESB-DEMO-3001 | 3    | 48  | A A    | 144   |      |
|       | ESB-DEMO-3002 | 3    | 48  | A      | 144   |      |
|       | ESB-DEMO-3003 | 3    | 48  | A      | 144   |      |
|       | ESB-DEMO-3004 | 3    | 48  | A      | 144   |      |
|       | ESB-MOBL-3004 | 10   | 48  | Q      | 1920  |      |
|       | ESB-MOBL-3005 | 20   | 48  | A A    | 960   |      |
|       | ESB-MOBL-3006 | 20   | 48  | A      | 960   |      |
|       | ESB-RECN-3002 | 20   | 48  | A      | 960   |      |
| M032  |               | = =  |     |        |       | 9168 |
| W030  | EGD GMOD 4001 | 1    | 1.0 | C 7    | 0.4   |      |
| м039  | ESB-CMOB-4001 | 1    | 12  | SA     | 24    |      |
|       | ESB-CMOB-4002 | 12   | 12  | SA     | 288   |      |
|       | ESB-CMOB-4003 | 10   | 12  | SA     | 240   |      |
|       | ESB-RECN-4002 | 1    | 12  | A      | 12    |      |
|       | ESB-CMOB-3002 | 4    | 48  | Q      | 768   |      |
|       | ESB-DEMO-3001 | 3    | 48  | A      | 144   |      |
|       | ESB-DEMO-3002 | 3    | 48  | A      | 144   |      |
|       | ESB-DEMO-3003 | 3    | 48  | A      | 144   |      |
|       | ESB-DEMO-3004 | -    | 48  | A      | 144   |      |
| M020  | ESB-RECN-3002 | 1    | 48  | A      | 48    | 1010 |
| м039  |               |      |     |        |       | 1912 |
| M130  | ESB-CMOB-4001 | 10   | 12  | SA     | 240   |      |
|       | ESB-CMOB-4002 | 12   | 12  | SA     | 288   |      |

|      |               |    |    | 1  |      |       |
|------|---------------|----|----|----|------|-------|
|      | ESB-CMOB-4003 | 6  | 12 | SA | 144  |       |
|      | ESB-MOBL-4003 | 10 | 12 | A  | 120  |       |
|      | ESB-MOBL-4004 | 30 | 12 | Q  | 1440 |       |
|      | ESB-MOBL-4010 | 10 | 12 | SA | 240  |       |
|      | ESB-RECN-4002 | 10 | 12 | A  | 120  |       |
|      | ESB-SURV-4006 | 10 | 12 | A  | 120  |       |
|      | ESB-CMOB-3002 | 6  | 48 | Q  | 1152 |       |
|      | ESB-CMOB-3003 | 4  | 48 | Q  | 768  |       |
|      | ESB-DEMO-3001 | 5  | 48 | A  | 240  |       |
|      | ESB-DEMO-3002 | 5  | 48 | A  | 240  |       |
|      | ESB-DEMO-3003 | 5  | 48 | A  | 240  |       |
|      | ESB-DEMO-3004 | 5  | 48 | A  | 240  |       |
|      | ESB-MOBL-3004 | 6  | 48 | Q  | 1152 |       |
|      | ESB-MOBL-3005 | 60 | 48 | A  | 2880 |       |
|      | ESB-MOBL-3006 | 60 | 48 | A  | 2880 |       |
|      | ESB-RECN-3002 | 20 | 48 | Q  | 3840 |       |
| M130 |               |    |    |    |      | 16224 |
|      |               |    |    |    |      |       |
| M131 | ESB-CMOB-4001 | 20 | 12 | SA | 480  |       |
|      | ESB-CMOB-4002 | 12 | 12 | SA | 288  |       |
|      | ESB-CMOB-4003 | 6  | 12 | SA | 144  |       |
|      | ESB-MOBL-4003 | 20 | 12 | A  | 240  |       |
|      | ESB-MOBL-4010 | 20 | 12 | SA | 480  |       |
|      | ESB-RECN-4002 | 20 | 12 | A  | 240  |       |
|      | ESB-SURV-4006 | 20 | 12 | A  | 240  |       |
|      | ESB-CMOB-3002 | 6  | 48 | Q  | 1152 |       |
|      | ESB-CMOB-3003 | 4  | 48 | Q  | 768  |       |
|      | ESB-DEMO-3001 | 5  | 48 | A  | 240  |       |
|      | ESB-DEMO-3002 | 5  | 48 | A  | 240  |       |
|      | ESB-DEMO-3003 | 5  | 48 | A  | 240  |       |
|      | ESB-DEMO-3004 | 5  | 48 | A  | 240  |       |
|      | ESB-MOBL-3004 | 6  | 48 | Q  | 1152 |       |
|      | ESB-RECN-3002 | 10 | 48 | Q  | 1920 |       |
| M131 |               |    |    |    |      | 7884  |
|      |               |    |    |    |      |       |
| M327 | ESB-CMOB-4002 | 12 | 12 | SA | 288  |       |
|      | ESB-CMOB-3001 | 10 | 48 | SA | 960  |       |
|      | ESB-CMOB-3002 | 6  | 48 | Q  | 1152 |       |
| M327 |               |    |    |    |      | 2400  |
|      |               |    |    |    |      |       |
| M420 | ESB-CMOB-4001 | 1  | 12 | SA | 24   |       |
|      | ESB-CMOB-4003 | 5  | 12 | SA | 120  |       |
|      | ESB-RECN-4002 | 1  | 12 | SA | 24   |       |
|      | ESB-DEMO-3001 | 1  | 48 | А  | 48   |       |
|      | ESB-DEMO-3002 | 1  | 48 | А  | 48   |       |
|      | ESB-DEMO-3003 | 1  | 48 | A  | 48   |       |
|      | ESB-DEMO-3004 | 1  | 48 | A  | 48   |       |
|      | ESB-RECN-3002 | 1  | 48 | Q  | 192  |       |
| M420 |               |    |    |    |      | 552   |
|      |               |    |    |    |      |       |
| M421 | ESB-CMOB-4001 | 1  | 12 | SA | 24   |       |
|      | ESB-CMOB-4002 | 8  | 12 | SA | 192  |       |

|      | I                              |             |    |        | 1 010  |         |
|------|--------------------------------|-------------|----|--------|--------|---------|
|      | ESB-CMOB-4003                  | 10          | 12 | SA     | 240    |         |
|      | ESB-RECN-4002                  | 1           | 12 | A      | 12     |         |
|      | ESB-CMOB-3002                  | 4           | 48 | Q      | 768    |         |
|      | ESB-RECN-3002                  | 1           | 12 | Q      | 48     |         |
| M421 |                                |             |    |        |        | 1284    |
| M456 | ESB-CMOB-4001                  | 1500        | 12 | SA     | 36000  |         |
|      | ESB-CMOB-4002                  | 1000        | 12 | SA     | 24000  |         |
|      | ESB-CMOB-4003                  | 1000        | 12 | SA     | 24000  |         |
|      | ESB-MOBL-4003                  | 1500        | 12 | A      | 18000  |         |
|      | ESB-MOBL-4004                  | 2000        | 12 | Q      | 96000  |         |
|      | ESB-MOBL-4010                  | 2000        | 12 | SA     | 48000  |         |
|      | ESB-RECN-4002                  | 1500        | 12 | A      | 18000  |         |
|      | ESB-SURV-4006                  | 2000        | 12 | A      | 24000  |         |
|      | ESB-CMOB-3001                  | 1000        | 48 | SA     | 96000  |         |
|      | ESB-CMOB-3001                  | 250         | 48 | Q      | 48000  |         |
|      | ESB-CMOB-3002                  | 1000        | 48 |        | 192000 |         |
|      | ESB-DEMO-3001                  | 250         | 48 | Q<br>A | 12000  |         |
|      | ESB-DEMO-3001<br>ESB-DEMO-3002 | 250         | 48 | A      | 12000  |         |
|      |                                | 250         | 48 | +      |        |         |
|      | ESB-DEMO-3003<br>ESB-DEMO-3004 | 250         | 48 | A<br>A | 12000  |         |
|      | ESB-MOBL-3004                  |             | 48 |        | 192000 |         |
|      |                                | 1000        | 48 | Q      | 72000  |         |
|      | ESB-MOBL-3005<br>ESB-MOBL-3006 | 1500        | 48 | A      |        |         |
|      |                                | 1000<br>500 | 48 | A      | 48000  |         |
| M456 | ESB-RECN-3002                  | 500         | 40 | Q      | 96000  | 1080000 |
| M450 |                                |             |    |        |        | 100000  |
| M591 | ESB-CMOB-4001                  | 10          | 12 | SA     | 240    |         |
|      | ESB-CMOB-4002                  | 10          | 12 | SA     | 240    |         |
|      | ESB-CMOB-4003                  | 10          | 12 | SA     | 240    |         |
|      | ESB-MOBL-4010                  | 20          | 12 | SA     | 480    |         |
|      | ESB-RECN-4002                  | 10          | 12 | SA     | 240    |         |
|      | ESB-SURV-4006                  | 20          | 12 | A      | 360    |         |
|      | ESB-CMOB-3002                  | 6           | 48 | Q      | 1152   |         |
|      | ESB-DEMO-3001                  | 6           | 48 | A      | 288    |         |
|      | ESB-DEMO-3002                  | 6           | 48 | A      | 288    |         |
|      | ESB-DEMO-3003                  | 6           | 48 | A      | 288    |         |
|      | ESB-DEMO-3004                  | 6           | 48 | A      | 288    |         |
|      | ESB-MOBL-3004                  | 20          | 48 | Q      | 240    |         |
|      | ESB-RECN-3002                  | 10          | 48 | Q      | 1920   |         |
| M591 | ISB RECR SOUL                  | - 10        | 10 | ×      | 1720   | 6264    |
|      |                                |             |    |        |        |         |
| M670 | ESB-CMOB-4001                  | 500         | 12 | SA     | 12000  |         |
|      | ESB-CMOB-4002                  | 500         | 12 | SA     | 12000  |         |
|      | ESB-CMOB-4003                  | 500         | 12 | SA     | 12000  |         |
|      | ESB-MOBL-4003                  | 500         | 12 | A      | 6000   |         |
|      | ESB-MOBL-4004                  | 250         | 12 | Q      | 12000  |         |
|      | ESB-MOBL-4010                  | 1000        | 12 | SA     | 24000  |         |
|      | ESB-RECN-4002                  | 500         | 12 | A      | 6000   |         |
|      | ESB-SURV-4006                  | 500         | 12 | A      | 6000   |         |
|      |                                |             |    |        |        |         |
|      | ESB-CMOB-3002                  | 125         | 48 | Q      | 24000  |         |

| ML03   |                                |     |          |        |       | 3384   |
|--------|--------------------------------|-----|----------|--------|-------|--------|
| MT 0.3 | ESB-CMOB-3003                  | 4   | 48       | Q      | 768   | 2204   |
|        | ESB-CMOB-3002                  | 4   | 48       | Q      | 768   |        |
|        | ESB-CMOB-3001                  | 10  | 48       | SA     | 960   |        |
|        | ESB-SURV-4006                  | 10  | 12       | A      | 120   |        |
|        | ESB-RECN-4002                  | 2   | 12       | A      | 24    |        |
|        | ESB-MOBL-4010                  | 10  | 12       | SA     | 240   |        |
|        | ESB-MOBL-4003                  | 2   | 12       | A      | 24    |        |
|        | ESB-CMOB-4003                  | 6   | 12       | SA     | 144   |        |
|        | ESB-CMOB-4002                  | 12  | 12       | SA     | 288   |        |
| ML03   | ESB-CMOB-4001                  | 2   | 12       | SA     | 48    |        |
|        |                                |     |          |        |       |        |
| м982   |                                |     |          |        |       | 1152   |
|        | ESB-DEMO-3004                  | 6   | 48       | А      | 288   |        |
|        | ESB-DEMO-3003                  | 6   | 48       | А      | 288   |        |
|        | ESB-DEMO-3002                  | 6   | 48       | А      | 288   |        |
| м982   | ESB-DEMO-3001                  | 6   | 48       | А      | 288   |        |
|        |                                |     |          |        |       |        |
| м914   |                                |     |          |        |       | 132    |
|        | ESB-MOBL-3005                  | 2   | 48       | А      | 96    |        |
|        | ESB-MOBL-4005                  | 2   | 12       | А      | 24    |        |
| м914   | ESB-MOBL-4003                  | 1   | 12       | A      | 12    |        |
|        |                                |     |          |        |       |        |
| м913   |                                |     | <u> </u> |        |       | 84     |
|        | ESB-MOBL-3005                  | 1   | 48       | A      | 48    |        |
|        | ESB-MOBL-4005                  | 1   | 12       | A      | 12    |        |
| м913   | ESB-MOBL-4003                  | 2   | 12       | A      | 24    |        |
|        |                                |     |          |        |       |        |
| M757   |                                | _   |          | ~      |       | 1296   |
|        | ESB-RECN-3002                  | 1   | 48       | Q      | 192   |        |
|        | ESB-MOBL-3006                  | 2   | 48       | A      | 96    |        |
|        | ESB-MOBL-3005                  | 2   | 48       | A      | 96    |        |
|        | ESB-DEMO-3004                  | 1   | 48       | A      | 48    |        |
|        | ESB-DEMO-3002<br>ESB-DEMO-3003 | 1   | 48       | A      | 48    |        |
|        | ESB-DEMO-3001 ESB-DEMO-3002    | 1   | 48       | A      | 48    |        |
|        | ESB-CMOB-3002<br>ESB-DEMO-3001 | 1   | 48       | Q<br>A | 48    |        |
|        | ESB-RECN-4002                  | 2 2 | 12<br>48 | A      | 384   |        |
|        | ESB-MOBL-4004                  | 2   | 12       | Q      | 96    |        |
|        | ESB-MOBL-4003                  | 2   | 12       | A      | 24    |        |
|        | ESB-CMOB-4002                  | 6   | 12       | SA     | 144   |        |
| м757   | ESB-CMOB-4001                  | 2   | 12       | SA     | 48    |        |
|        |                                |     |          |        |       |        |
| M670   |                                |     |          |        |       | 262800 |
|        | ESB-RECN-3002                  | 500 | 48       | Q      | 24000 |        |
|        | ESB-MOBL-3006                  | 500 | 48       | А      | 24000 |        |
|        | ESB-MOBL-3005                  | 500 | 48       | А      | 24000 |        |
|        | ESB-MOBL-3004                  | 500 | 48       | Q      | 48000 |        |
|        | ESB-DEMO-3004                  | 150 | 48       | A      | 7200  |        |
|        | ESB-DEMO-3003                  | 150 | 48       | A      | 7200  |        |

|        | ESB-CMOB-3002                  | 4       | 48       | Q      | 768         |                                       |
|--------|--------------------------------|---------|----------|--------|-------------|---------------------------------------|
| MN14   | ESB-CMOB-4002                  | 12      | 12       | SA     | 288         | · · · · · · · · · · · · · · · · · · · |
|        |                                |         |          |        |             |                                       |
| 80/M   |                                |         |          |        |             | 28016                                 |
|        | ESB-RECN-3002                  | 20      | 48       | Q      | 8192        |                                       |
|        | ESB-MOBL-3006                  | 100     | 48       | A      | 4800        |                                       |
|        | ESB-MOBL-3005                  | 100     | 48       | A      | 4800        |                                       |
|        | ESB-MOBL-3004                  | 10      | 48       | Q      | 1920        |                                       |
|        | ESB-DEMO-3003                  | 15      | 48       | A      | 720         |                                       |
|        | ESB-DEMO-3002                  | 15      | 48       | A      | 720         |                                       |
|        | ESB-DEMO-3001                  | 15      | 48       | A<br>A | 720         |                                       |
|        | ESB-DEMO-3001                  | 15      | 48       | Q<br>A | 720         |                                       |
|        | ESB-SURV-4006<br>ESB-CMOB-3002 | 20<br>6 | 12<br>48 | A      | 240<br>1152 |                                       |
|        | ESB-RECN-4002                  | 35      | 12       | A      | 420         |                                       |
|        | ESB-MOBL-4010                  | 30      | 12       | SA     | 720         |                                       |
|        | ESB-MOBL-4004                  | 25      | 12       | Q      | 1200        |                                       |
|        | ESB-MOBL-4003                  | 35      | 12       | A      | 420         |                                       |
|        | ESB-CMOB-4003                  | 6       | 12       | SA     | 144         |                                       |
|        | ESB-CMOB-4002                  | 12      | 12       | SA     | 288         |                                       |
| 80MM   | ESB-CMOB-4001                  | 35      | 12       | SA     | 840         |                                       |
|        |                                |         |          |        |             |                                       |
| MM48   |                                |         |          |        |             | 192                                   |
|        | ESB-DEMO-3004                  | 1       | 48       | А      | 48          |                                       |
|        | ESB-DEMO-3003                  | 1       | 48       | А      | 48          |                                       |
|        | ESB-DEMO-3002                  | 1       | 48       | A      | 48          |                                       |
| MM48   | ESB-DEMO-3001                  | 1       | 48       | A      | 48          |                                       |
|        | ESB-DEMO-3004                  | 1       | 48       | A      | 48          |                                       |
|        |                                |         |          |        |             |                                       |
| MM47   | 10 0001                        |         |          |        |             | 192                                   |
|        | ESB-DEMO-3004                  | 1       | 48       | A      | 48          |                                       |
|        | ESB-DEMO-3003                  | 1       | 48       | A      | 48          |                                       |
|        | ESB-DEMO-3002                  | 1       | 48       | A      | 48          |                                       |
| MM47   | ESB-DEMO-3001                  | 1       | 48       | A      | 48          |                                       |
| IIII J |                                |         |          |        |             | 194                                   |
| MM45   | ESE-NEWO-3004                  |         | 10       | A      | 10          | 192                                   |
|        | ESB-DEMO-3003<br>ESB-DEMO-3004 | 1       | 48       | A<br>A | 48          |                                       |
|        | ESB-DEMO-3002                  | 1       | 48<br>48 | A      | 48          |                                       |
| MM45   | ESB-DEMO-3001                  | 1       | 48       | A      | 48          |                                       |
| MM 4 F | ECD DEMO 2001                  | 1       | 4.0      | 7.     | 4.0         |                                       |
| MM44   |                                |         |          |        |             | 192                                   |
|        | ESB-DEMO-3004                  | 1       | 48       | A      | 48          | 100                                   |
|        | ESB-DEMO-3003                  | 1       | 48       | A      | 48          |                                       |
|        | ESB-DEMO-3002                  | 1       | 48       | A      | 48          |                                       |
| MM44   | ESB-DEMO-3001                  | 1       | 48       | A      | 48          |                                       |
|        |                                |         |          |        |             |                                       |
| MM30   |                                |         |          |        |             | 768                                   |
|        | ESB-DEMO-3004                  | 4       | 48       | А      | 192         |                                       |
|        | ESB-DEMO-3003                  | 4       | 48       | A      | 192         |                                       |
|        |                                | 4       | 48       | A      | 192         |                                       |

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| MN14 |               |    |    |     |     | 1056 |
|------|---------------|----|----|-----|-----|------|
|      |               |    |    |     |     |      |
| MN52 | ESB-CMOB-4002 | 8  | 12 | SA  | 96  |      |
|      | ESB-MOBL-4003 | 10 | 12 | A   | 120 |      |
|      | ESB-MOBL-4010 | 20 | 12 | SA  | 480 |      |
|      | ESB-SURV-4006 | 10 | 12 | А   | 120 |      |
|      | ESB-CMOB-3002 | 4  | 48 | Q   | 768 |      |
| MN52 |               |    |    |     |     | 1584 |
| MN79 | ESB-MOBL-4003 | 1  | 12 | A   | 12  |      |
|      | ESB-MOBL-3005 | 1  | 48 | A   | 48  |      |
| MN79 |               |    |    |     |     | 60   |
| MN88 | ESB-MOBL-4004 | 5  | 12 | Q   | 240 |      |
|      | ESB-MOBL-3005 | 10 | 48 | A   | 480 |      |
|      | ESB-MOBL-3006 | 10 | 48 | A   | 480 |      |
| MN88 |               |    |    |     |     | 1200 |
| MN90 | ESB-MOBL-4004 | 10 | 12 | Q   | 480 |      |
|      | ESB-MOBL-3005 | 10 | 48 | A A | 480 |      |
|      | ESB-MOBL-3006 | 10 | 48 | A   | 480 |      |
| MN90 |               |    |    |     |     | 1140 |

### ENG & UTIL T&R MANUAL

#### APPENDIX D

#### MOS-SPECIFIC PHYSICAL STANDARDS

- 1. <u>Purpose</u>. This appendix identifies MOS-specific physical standards and describes the execution of assessments designed to evaluate a Marine's physical capabilities, in order to provide Commanders reasonable assurance a Marine has the physical capacity to perform the regularly assigned and recurrent duties of the MOS.
- 2. <u>Evaluation</u>. Marines must either 'pass' or 'fail' event or performance step assessments to the standards set forth within this manual.

#### 3. Requirements

### a. Initial Training

(1) For the 1302 MOS:

1302-MOBL-1004, Performance Step 4, Conduct breaching actions 1302-MOBL-1006, Performance Step 6, Select and construct appropriate explosives 0300-TVEH-1001, Assist in loading and unloading a tactical vehicle (See NAVMC 3500.44B Infantry T&R Manual) 0300-MED-1001, Performance Step 1, Ensure that you and the casualty are no longer under direct enemy fire. (See NAVMC 3500.44B Infantry T&R Manual)

(2) For the 1371 MOS:

1371-MOBL-1001, Performance Step 4, Reduce the obstacle
1371-MOBL-1003, Performance Step 3, Create lane(s) through
explosive obstacles
1371-SURV-1001, Performance Step 2, Place structural materials
0300-TVEH-1001, Assist in loading and unloading a tactical
vehicle (See NAVMC 3500.44B Infantry T&R Manual)
0300-MED-1001, Performance Step 1, Ensure that you and the
casualty are no longer under direct enemy fire.
(See NAVMC 3500.44B Infantry T&R Manual)

(3) For the 1372 MOS:

1372-MOBL-1001, Performance Step 1, Open commander's hatch 1372-MOBL-1008, Performance Step 7, Perform emergency crew evacuation procedures, as required 1372-MANT-1001, Performance Step 4, Correct maintenance deficiencies if within authorized maintenance level 1372-MANT-1002, Performance Step 5, Conduct recovery (self, like or other) 1372-MOBL-1002, Performance Step 1, Enter the driver's station 1372-MOBL-1002, Performance Step 13, Close driver's hatch

0300-TVEH-1001, Assist in loading and unloading a tactical vehicle (See NAVMC 3500.44B Infantry T&R Manual)
0300-MED-1001, Performance Step 1, Ensure that you and the casualty are no longer under direct enemy fire.
(See NAVMC 3500.44B Infantry T&R Manual)

#### b. Sustainment

- (1)  $\underline{\text{Active Component}}$ . Successfully complete MOS-applicable events listed within paragraph 3.a. to standard, in accordance with the sustainment interval specified in the respective T&R Event.
- (2) Reserve Component (SCMR/IMA). Reserve Component Marines will complete the prescribed MOS-Specific Physical Standards events during assignment to any operating forces BIC. Event completion to standard will remain valid for three (3) years.
- (3) <u>Activated Reservists</u>. Activated Reserve Marines, to include AR, mobilized or those performing ADOS will comply with the Active Component's requirement outlined above. Exceptions and waivers are not permitted.
- 4. Evaluation sequencing. The MOS-specific physical standards events are not intended to be conducted in a single, continuous session. However, if the Commander schedules these events to occur in sequence within a 24-hour period, adequate transition between events should permit Marines the opportunity to recover, stretch, hydrate, and prepare for the next event. Total rest permitted between events is determined at the Commander's discretion

## 5. Uniform and Equipment

### a. Uniform.

(1) Fighting Load. See NAVMC 3500.44\_ (Infantry T&R Manual) Appendix F, Figure F-1, for the Fighting Load gear list. This load will be worn/carried by MOSs listed within paragraph 3.a. when executing the following events:

```
1302-MOBL-1004, Performance Step 4, Conduct breaching actions
1302-MOBL-1006, Performance Step 6, Select and construct
appropriate explosives
1371-MOBL-1001, Performance Step 4, Reduce the obstacle
1371-MOBL-1003, Performance Step 3, Create lane(s) through
explosive obstacles
0300-TVEH-1001, Assist in loading and unloading a tactical
vehicle (See NAVMC 3500.44B Infantry T&R Manual)
0300-MED-1001, Performance Step 1, Ensure that you and the
casualty are no longer under direct enemy fire.
(See NAVMC 3500.44B Infantry T&R Manual)
1302-MAR-2001, March with a fighting load
1371-MAR-2001, March with a fighting load
```

1372-MAR-2001, March with a fighting load

- (2) The Fighting Load with either the Combat Vehicle Crewman (CVC) suit will be worn/carried by MOS listed within paragraph 3.a. when executing the following events:
  - 1372-MOBL-1001, Performance Step 1, Open commander's hatch 1372-MANT-1001, Performance Step 4, Correct maintenance deficiencies if within authorized maintenance level
  - 1372-MOBL-1002, Performance Step 1, Enter the driver's station 1372-MOBL-1002, Performance Step 13, Close driver's hatch 0300-MED-1001, Performance Step 1, Ensure that you and the casualty are no longer under direct enemy fire. (See NAVMC 3500.44B Infantry T&R Manual)
- b. Utility Uniform with blouse removed. The Utility Uniform with blouse removed will be worn by MOSs listed within paragraph 3.a. when executing the following events:
  - 1372-MANT-1002, Performance Step 5, Conduct recovery (self, like or other)
  - 1372-MOBL-1008, Performance Step 7, Perform emergency crew evacuation procedures, as required
  - 1371-SURV-1001, Performance Step 2, Place structural materials
- c. <u>Substituting Equipment</u>. Marines conducting the march with a fighting load may substitute surrogate items to replicate the weight of equipment which is unavailable. The total weight of the equipment carried will be within 10% (99 to 121 pounds) of the total prescribed weight (assigned weapon w/ components not included).
- 5. <u>Events Assessed</u>. The following paragraphs outline the expected conduct of assessments, in support of a factor of either MOS qualification or requalification/continuation:
  - a. 1372-MANT-1002, Conduct recovery operations for ABV/AVLB
- (1) <u>Description</u>. The functional movement for this assessment is a deadlift. The deadlift will be a single repetition lift and hold of an Olympic bar with a total weight of 150 lbs. This event will be performed without the fighting load, and with the utility blouse removed.
- (2) <u>Environment</u>. This event may be conducted either indoors or outdoors. Time of day is not relevant. Ambient temperature is not relevant. Precipitation is not relevant.
- (3) Standard. Deadlift and hold an Olympic bar with a total weight of 150 lbs. at knuckle height for 30 seconds, and then lower to the deck. This event is Pass/Fail.
- (4)  $\underline{\text{Required Equipment}}$ . One Olympic lifting bar with a total of 150 lbs. of weight.
  - (5) Execution.

- (a) The Marine will begin with feet shoulder width apart or under the hips. The bar should be above the boot laces at the start and shoulders slightly forward of the bar. Either the overhand, underhand or alternating grip may be used.
- (b) The preparatory command is "Ready" and the execute command is "Begin." On the command "Begin," the Marine will execute a deadlift. When executing the deadlift, keep your chest high and maintain the curve in the lower back. While keeping the arms straight during the lift, keep the weight on the heels and extend the knees first, then hips at the top of the lift. The lift is completed when the hips are extended, knees are straight and shoulders behind the bar.
- (c) Marines are encouraged to 'use-their-legs,' in order to lift the Olympic bar, and to avoid 'lifting-with-their-back.'
- (d) Once the deadlift position has been achieved, and the Olympic bar has been lifted to knuckle height, the Marine will maintain that position for 30 seconds. After 30 seconds the Olympic bar will be lowered to the deck in a fluid, controlled motion while maintaining the curve in the lower back while doing so.

#### b. 1371-SURV-1001, Construct survivability positions

- (1) <u>Description</u>. The functional movement for this assessment is a clean-and-press. The clean-and-press will be a single repetition lift of an Olympic bar with a total weight of 115 lbs. This event will be performed without the fighting load, and with the utility blouse removed.
- (2) <u>Environment</u>. This assessment may be conducted either indoors or outdoors, on a generally level and firm surface.
- (3) <u>Standard</u>. Clean and press an Olympic bar with a total weight of 115 lbs., and then lower to the deck.
- (4) Required Equipment. One Olympic lifting bar with a total of  $115 \ lbs.$  of weight.

- (a) The Marine will begin with feet shoulder width apart or under the hips. The bar should be above the boot laces at the start. Only the overhand grip can be used in this lift.
- (b) The preparatory command is "Ready" and the execute command is "Begin." On the command "Begin," the Marine will execute a clean and press. While the clean-and-press occurs in a fluid motion, the first move of the lift is the clean. The clean begins by lifting the bar with arms locked, and the bar close to the body. The cleaning motion ends when the shoulders are fully shrugged and the hips, knees, and ankles are extended. At this point, drop underneath the bar to catch the weight at shoulder level. The next motion of the lift is the press. Dip by slightly breaking at the hips and knees, and then drive upward with the hips and shoulders until the arms are locked out and the upper arm is next to the ear.

- (c) Marines are encouraged to 'use-their-legs,' in order to lift the Olympic bar, and to avoid 'lifting-with-their-back.' However, no penalty will be assessed if Marine chooses not to use their legs.
- (d) Once elbow lock-out has occurred, the Olympic bar will be lowered in a fluid, controlled motion from shoulder-height, then to the deck, and neither thrown nor dropped. While lowering the mock-up to the deck, Marines must maintain a supportive curvature of the spine, and bend their knees.
- c. 1372-MOBL-1001, Operate commander's station on ABV, 1372-MOBL-1002, Operate ABV driver's station.
- (1) <u>Description</u>. This event is to open and secure the ABV or AVLB Commanders (TC) station or driver's station.
  - (2) Environment. This event will be conducted in a ABV or AVLB.
- (3) Standard. Using a one-handed, overhead press open and secure the TC hatch within 30 seconds.

#### (4) Required Equipment.

- (a) A timepiece (digital or stopwatch) that accurately measures time to the second.
- (b) An ABV or AVLB with operational TC station and driver's station.

- (a) The Marine will begin seated in the TC station or driver station within the ABV or  ${\mbox{AVLB}}$ .
- (b) The preparatory command is "Ready" and the execute command is "Begin." On the command "Begin," the Marine will grasp the TC hatch or driver's station, and using one hand will press upward to open the hatch. Once open, the Marine will secure the hatch.
  - (c) Once the hatch is secured time will stop.
  - d. 1372-MOBL-1008, Execute ABV emergency procedures.
- (1) <u>Description</u>. The functional movement for this assessment is similar to a clean-and-press. The clean-and-press will be a single repetition lift of an Olympic bar with a total weight of 115 lbs.
- (2) <u>Environment</u>. This assessment may be conducted either indoors or outdoors, on a generally level and firm surface.
- (3) <u>Standard</u>. Clean and press an Olympic bar with a total weight of 115 lbs., and then lower to the deck.

(4) Required Equipment. One Olympic lifting bar with a total of  $115 \ lbs.$  of weight.

### (5) <u>Execution</u>.

- (a) The Marine will begin with feet shoulder width apart or under the hips. The bar should be above the boot laces at the start. Only the overhand grip can be used in this lift.
- (b) The preparatory command is "Ready" and the execute command is "Begin." On the command "Begin," the Marine will execute a clean and press. While the clean-and-press occurs in a fluid motion, the first move of the lift is the clean. The clean begins by lifting the bar with arms locked, and the bar close to the body. The cleaning motion ends when the shoulders are fully shrugged and the hips, knees, and ankles are extended. At this point, drop underneath the bar to catch the weight at shoulder level. The next motion of the lift is the press. Dip by slightly breaking at the hips and knees, and then drive upward with the hips and shoulders until the arms are locked out and the upper arm is next to the ear.
- (c) Marines are encouraged to 'use-their-legs,' in order to lift the Olympic bar, and to avoid 'lifting-with-their-back.' However, no penalty will be assessed if Marine chooses not to use their legs.
- (d) Once elbow lock-out has occurred, the Olympic bar will be lowered in a fluid, controlled motion from shoulder-height, then to the deck, and neither thrown nor dropped. While lowering the bar to the deck, Marines must maintain a supportive curvature of the spine, and bend their knees.
- e. 1372-MANT-1001, Perform ABV/AVLB Operator Preventive Maintenance Checks and Services (PMCS)
- (1) <u>Description</u>. The battery lift simulates the crew task of loading batteries into the ABV / AVLB. A mock-up battery will be lifted from the deck three times to represent that crewmember's share of the task.
- (2) <u>Environment</u>. This assessment may be conducted either indoors or outdoors, on a generally level and firm surface.
- (3) Standard. Lift a mock-up ABV / AVLB battery three times from ground to chin-level and back to the ground within 1 minute 50 seconds or less, in order to simulate required movements normally associated with the battery's installation within the tank.

## (4) Required Equipment

- (a) A timepiece (digital or stopwatch) that accurately measures time to the second.
- (b) An ABV / AVLB battery mock-up. Local commanders have the discretion to use a training aid of similar dimensions in place of a mock-up battery should the mock-up not be available. Use of an actual battery is not recommended due to potential damage to the battery and safety concerns.

- (a) The Marine will either stand erect or crouched-down with both feet flat-the-ground. Distance between the Marine's feet should be shoulder-width apart. The Marine may choose to stand erect or crouched with feet staggered in a variation of the basic-warrior stance. The mock-up will be at rest, at the ground-level, directly in front of and reasonably close to the Marine's toes.
- (b) The preparatory command is "Ready" and the execute command is "Begin." On the command "Begin," the Marine will lift the mock-up from the ground, to a point wherein the bottom of the mock-up breaks the plane of the Marine's chin. Once the plane has been broken, the mock-up will be lowered in a fluid, controlled motion from chin-height to the deck, and neither thrown nor dropped. While lowering the mock-up to the deck, Marines should maintain a supportive curvature of the spine, and bend their knees. One repetition will be counted once the mock-up has been placed on the deck. Repeat for a total of three repetitions.
- (c) Marines are encouraged to 'use-their-legs,' in order to generate the mock-up's upward momentum. However, no penalty will be assessed if Marines choose not to use their legs.
- f. 1302-MOBL-1006, Conduct assault breaching into buildings, 1371-MOBL-1001, Breach non-explosive obstacles
- (1) <u>Description</u>. The 1302 mobility conduct assault breaching into buildings and 1371 mobility breach non-explosive obstacles event assesses the combat engineer's ability to mechanically breach a door with a battering ram.
- (2)  $\underline{\text{Environment}}$ . This event should be conducted outside with a target door trainer and training hardware.
- (3)  $\underline{\text{Standard}}$ . The Marine must breach the door within 5 attempts or 30 seconds, whichever comes first.
- (4) <u>Required Equipment</u>. (4) mechanical breach door trainers, (3) Monoshock Battering Rams, (4) BTI breech simulation pins per Marine tested, (5) stopwatches, (2) clipboards
- (a) MOS 1302 and 1371 Marines will carry the assigned personal weapon (M4 or M-16A4) and appropriate SL-3 [7 magazines, combat assault sling, PEQ-15/16, RCO, Bayonet, and cleaning gear].
- g. 1302-MOBL-1004, Conduct mobility operations in an Improvised Explosive Device (IED) environment and 1371-MOBL-1003, Breach explosive obstacles/hazards
- (1) <u>Description</u>. The 1302 Conduct mobility operations in an Improvised Explosive Device (IED) environment and 1371 Breach explosive obstacles/hazards events, as depicted in Figure F-1, assesses the Combat Engineer's ability to run/rush 150 meters to employ an APOBS in support of a deliberate attack.

- 2) <u>Environment</u>. The terrain selected for this event should be flat and clear of debris or material which would be hazardous for Marines. The field utilized for the Combat Fitness Test is ideal.
- 3) <u>Standard</u>. Run/rush 150 meters in under 1:12 while wearing the fighting load and carrying an inert APOBS front or rear pack.
- (4) <u>Required Equipment</u>. (3) Inert APOB packs, (32) Large Cones & (20) small cones per course (recommend two courses), (5) stop watches, (2) clip boards, (1) distance measuring wheel
- (a) 1302 and 1371 Marines will carry the assigned personal weapon (M4 or M-16A4) and appropriate SL-3 [7 magazines, combat assault sling, PEQ-15/16, RCO, Bayonet, and cleaning gear]. Additionally, the Marine will carry a front or back inert APOBS pack.

## (5) Execution.

- (a) Figure F-1 is read left to right, starting at the green flag, and depicts 3 legs of the course. The entire event is conducted on a single lane of cones.
- (b) The Marine starts in the kneeling position and finishes after crossing the finish line.

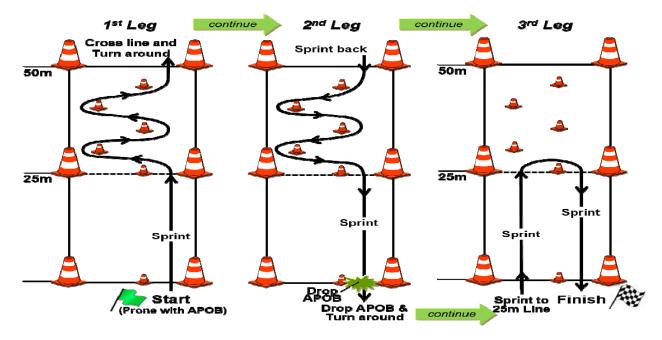


Figure F-1 150 Meter APOBS Individual Movement

h. 1302-MOBL-1008 Execute ABV emergency procedures

- (1) <u>Description</u>. The functional movement for this assessment is similar to a clean-and-press. The clean-and-press will be a single repetition lift of an Olympic bar with a total weight of 115 lbs.
- (2) <u>Environment</u>. This assessment may be conducted either indoors or outdoors, on a generally level and firm surface.
- (3) <u>Standard</u>. Clean and press an Olympic bar with a total weight of 115 lbs., and then lower to the deck.
- (4) Required Equipment. One Olympic lifting bar with a total of 115 lbs. of weight.

- (a) The Marine will begin with feet shoulder width apart or under the hips. The bar should be above the boot laces at the start. Only the overhand grip can be used in this lift.
- (b) The preparatory command is "Ready" and the execute command is "Begin." On the command "Begin," the Marine will execute a clean and press. While the clean-and-press occurs in a fluid motion, the first move of the lift is the clean. The clean begins by lifting the bar with arms locked, and the bar close to the body. The cleaning motion ends when the shoulders are fully shrugged and the hips, knees, and ankles are extended. At this point, drop underneath the bar to catch the weight at shoulder level. The next motion of the lift is the press. Dip by slightly breaking at the hips and knees, and then drive upward with the hips and shoulders until the arms are locked out and the upper arm is next to the ear.
- (c) Marines are encouraged to 'use-their-legs,' in order to lift the Olympic bar, and to avoid 'lifting-with-their-back.' However, no penalty will be assessed if Marine chooses not to use their legs.
- (d) Once elbow lock-out has occurred, the Olympic bar will be lowered in a fluid, controlled motion from shoulder-height, then to the deck, and neither thrown nor dropped. While lowering the bar to the deck, Marines must maintain a supportive curvature of the spine, and bend their knees.
  - i. 0300-TVEH-1001, Assist in loading and unloading a tactical vehicle.
- $\ \ \,$  (1)  $\,$  Description. The functional movement for this assessment is similar to a clean-and-press.
- (2) Refer to NAVMC 3500.44B Infantry T&R manual Appendix F for follow on instruction in the conduct of loading and unloading a tactical vehicle.
- j. 0300-MED-1001, Performance Step 1, Ensure that you and the casualty are no longer under direct enemy fire.)

- (1) <u>Description</u>. This is a 50 meter movement, simulating moving from a covered and concealed position, to a casualty's position, and dragging that casualty out of direct fire to a safe position.
- (2) Refer to NAVMC 3500.44B Infantry T&R manual Appendix F for follow on instruction in the conduct of the Casualty Drag.
- k. 1302-MAR-2001, March with a fighting load, 1371-MAR-2001, March with a fighting load, 1372-MAR-2001, March with a fighting load.
- (1) <u>Description</u>. The march under load assessment determines a Marine's physical capability to conduct dismounted movement over a prescribed distance, within a time standard, while carrying the fighting load.
- (2)  $\overline{\text{Environment}}$ . Route selected should be relatively flat, within the context of the local area. Commander should make every effort to mitigate the effects of adverse weather conditions, when possible.
- (3)  $\underline{\text{Standard}}$ . This is a fifteen (15) kilometer movement, which must be completed in four (4) hours or less, while carrying the approach march load.

### (4) Required Equipment:

- (a) Stopwatch or digital watch
- (b) Calibrated scales
- (c) GPS
- (d) Water resupply
- (e) Adequate safety/communications infrastructure

- (a) Although individual performance will be assessed, the March Under Load will be conducted as a unit.
- (b) Marines who fall back more than 100 meters from the rear trace of the unit will be considered a 'drop' and will fail the event.
- $\,$  (c) A 3mph pace will be maintained for the duration of the event.
  - (d) Breaks/halts will be conducted IAW Marine Corps doctrine.

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#### APPENDIX E

LIST OF T&R EVENTS THAT REQUIRE SIMULATION AND SYSTEMS THAT PROVIDE EVENT TRAINING CAPABILITY

- 1. Listed in this appendix are the results from the SAWG evaluation conducted at Marine Corps Base, Camp Lejeune. Subject Matter Experts (SME) from the Operational Forces participated in working groups, which reviewed and validated all Training and Readiness (T&R) events for simulation or simulator suitability.
- 2. Simulation suitability codes are added to each applicable event and can be found immediately following training event titles. The codes are as follows:
  - L The event can only be trained to standard in a Live environment.
  - ${f P}$  The event must be performed to standard in simulator as a PREREQUISITE to live fire qualification as per current policy, T&R manual, or doctrine.
  - $\mathbf{S/L}$  Event must be trained to standard in simulation then live unless simulation capacity is not available, then live only training is appropriate.
  - L/S Event must be trained to standard in a live environment then simulation unless simulation capacity is not available, then live only training is appropriate.
  - $\boldsymbol{S}$  Event can ONLY be conducted to standard and qualification within a  $\operatorname{simulator}$

#### 3. Terms

<u>Suitability and Sequence Code</u> - Shortened to "Suitability Code" in the table below. "Suitability" refers to whether a current simulator in the Marine Corps inventory can be used to train the annotated T&R event. Any code other than "L" means a current simulation is suitable for training. "Sequence" identifies where in the course of training the annotated event simulator should be employed.

<u>Unit of Measure</u> - Every hour of simulator usage is calculated based on the number of Marines who will be employing the simulator in the manner in which it was designed. The amount of time simulators appropriate to train individuals are counted as "Marine hours." The amount of time in simulators appropriate to train groups of Marines are counted using a term that best describes that collection of Marines; i.e. unit or crew hours.

4. Events by Simulation System.

### DVTE

|            |             | Suitability | Unit of |       |
|------------|-------------|-------------|---------|-------|
| Event Code | Event Title | Code        | Measure | Hours |

| CAB-ADMN-6001  | Command and control engineer forces     | L/S  | CACCTUS CAN<br>AS SECONDA                                                                                                                              |                                  |
|----------------|-----------------------------------------|------|--------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| CAB ABIAN 0001 | Conduct countermobility                 | 11/0 | Marine                                                                                                                                                 | KI IO IIKB                       |
| CAB-CMOB-6001  | operations                              | L/S  | Hours                                                                                                                                                  | 30                               |
| CAB-MOBL-6001  | Conduct mobility operations             | L/S  | Marine<br>Hours                                                                                                                                        | 30                               |
| CAB-PLAN-6001  | Plan engineer operations                | L/S  | CAPTUREI<br>CLB-ADM                                                                                                                                    |                                  |
|                | Conduct survivability                   | ,    | Marine                                                                                                                                                 |                                  |
| CAB-SURV-6001  | operations                              | L/S  | Hours                                                                                                                                                  | 30                               |
| CEB-ADMN-6001  | Command and control engineer forces     | L/S  | Marine<br>Hours                                                                                                                                        | 40                               |
| CEB-CMOB-6001  | Conduct countermobility operations      | L/S  | Marine<br>Hours                                                                                                                                        | 30                               |
| CED CHOD 0001  | operations                              | П/ 5 | Marine                                                                                                                                                 |                                  |
| CEB-MOBL-6001  | Conduct mobility operations             | L/S  | Hours<br>CAPTUREI                                                                                                                                      | 30                               |
| CEB-PLAN-6001  | Plan engineer operations                | L/S  | CLB-ADM                                                                                                                                                | -                                |
|                | Conduct survivability                   |      | Marine                                                                                                                                                 |                                  |
| CEB-SURV-6001  | operations                              | L/S  | Hours                                                                                                                                                  | 30                               |
| CLB-ADMN-6001  | Command and control engineer forces     | L/S  | Marine<br>Hours                                                                                                                                        | 40                               |
| CLD ADM 0001   | Conduct countermobility                 | Д/ 5 | Marine                                                                                                                                                 | 40                               |
| CLB-CMOB-6001  | operations                              | L/S  | Hours                                                                                                                                                  | 30                               |
| GIR MORI COOL  |                                         | T /G | Marine                                                                                                                                                 | 2.0                              |
| CLB-MOBL-6001  | Conduct mobility operations             | L/S  | Hours<br>CAPTUREI                                                                                                                                      | 30<br>IINDER                     |
| CLB-PLAN-6001  | Plan engineer operations                | L/S  | CLB-ADM                                                                                                                                                |                                  |
| a a 6001       | Conduct survivability                   | - /- | Marine                                                                                                                                                 | 2.0                              |
| CLB-SURV-6001  | operations Command and control engineer | L/S  | Hours<br>Marine                                                                                                                                        | 30                               |
| ESB-ADMN-6001  | forces                                  | L/S  | Hours                                                                                                                                                  | 40                               |
|                | Conduct countermobility                 |      | Marine                                                                                                                                                 | -                                |
| ESB-CMOB-6001  | operations                              | L/S  | Hours                                                                                                                                                  | 30                               |
| ESB-MOBL-6001  | Conduct mobility operations             | L/S  | Marine<br>Hours                                                                                                                                        | 30                               |
| ESB-MOBIL-0001 | Conduct modificy operations             | П/3  | CAPTUREI                                                                                                                                               |                                  |
| ESB-PLAN-6001  | Plan engineer operations                | L/S  | ESB-ADM                                                                                                                                                |                                  |
|                | Conduct survivability                   |      | Marine                                                                                                                                                 |                                  |
| ESB-SURV-6001  | operations                              | L/S  | Hours                                                                                                                                                  | 30                               |
|                |                                         |      | IDENTIFIED AS HOWEVER, DVT CRITICAL ELEI CREATING OBS                                                                                                  | E LACKS A<br>MENT FOR            |
|                |                                         |      | DEPICTING SUI<br>OBSTACLES (DEBASED UPON THE                                                                                                           | B-SURFACE<br>IGGING)<br>HE EVENT |
|                |                                         |      | FOR PLATOON                                                                                                                                            |                                  |
| CAB-CMOB-5001  | Create obstacle groups                  | S/L  | 16 I                                                                                                                                                   |                                  |
|                | Conduct obstacle breaching              |      | IDENTIFIED AS PARTIAL HOWEVER, DVTE LACKS A CRITICAL ELEMENT FOR CONDUCTING OBSTACLE BREECHING OPERATIONS OF DEPICTING SUB-SURFACE OBSTACLES (DIGGING) |                                  |
| CAB-MOBL-5001  | operations                              | S/L  | *IDENTIFIED                                                                                                                                            |                                  |
| CAB-MOBL-5002  | Conduct route clearance operations      | S/L  | HOWEVER, DVT                                                                                                                                           | E LACKS A                        |

|               |                                       |      | CONDUCTING ROCLEARANCE OPPLETING SUID OBSTACLES (D. *VIRTUAL CLE.* TRAINING SYSTEM - ARMY - UTILITY DURING JOINT IS A MORE SUID TRAINING SIMI * CCS CAN BEFOR ROUTE CLISUPPORT OF THE TOTAL THE TOTAL | ERATIONS OR B-SURFACE IGGING) ARANCE TEM (VCTS) LIZED TRAINING ITABLE ULATOR UTILIZED EARANCE IN HE MEU, E MTVR MUST BE H THE MEU |
|---------------|---------------------------------------|------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------|
|               | Conduct engineer                      | - 1- | Marine                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                                                                                                                   |
| CAB-RECN-5001 | reconnaissance                        | S/L  | Hours                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 144                                                                                                                               |
| CEB-CMOB-5001 | Create an obstacle group              | L/S  | IDENTIFIED AS PARTIAL HOWEVER, DVTE LACKS A CRITICAL ELEMENT FOR CREATING OBSTACLES OR DEPICTING SUB-SURFACE OBSTACLES (DIGGING) BASED UPON THE EVENT BEING CONDUCTED AS C2 FOR PLATOON STAFF 16 HRS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                   |
|               |                                       |      | IDENTIFIED AS HOWEVER, DVTI CRITICAL ELEI CONDUCTING OF BREECHING OF DEPICTING SUI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | E LACKS A MENT FOR BSTACLE ERATIONS OR B-SURFACE                                                                                  |
| CEB-MOBL-5001 | Conduct obstacle breaching operations | S/L  | OBSTACLES (DE 144                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | ,                                                                                                                                 |
| CER-MORT-2001 | Oberarious                            | р/П  | 144                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1117.0                                                                                                                            |

|               | T                                     | 1    | 1                                                                                                                                                                                                                                |                                                                                                                                                                                                    |
|---------------|---------------------------------------|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| CEB-MOBL-5002 | Conduct route clearance operations    | S/L  | *IDENTIFIED HOWEVER, DV CRITICAL EI CONDUCTII CLEARANCE OF DEPICTING S OBSTACLES *VIRTUAL ( TRAINING SY; - ARMY - DURING JOIN IS A MORE TRAINING S * CCS CAN F FOR ROUTE CI SUPPORT OF UTILIZING HOWEVER, I ENHANCED WI SET CAP: | TE LACKS A LEMENT FOR NG ROUTE ERATIONS OR UB-SURFACE (DIGGING) CLEARANCE STEM (VCTS) UTILIZED T TRAINING SUITABLE SIMULATOR E UTILIZED LEARANCE IN THE MEU, THE MTVR T MUST BE TH THE MEU ABILITY |
| CEB-MOBL-5002 |                                       | S/L  |                                                                                                                                                                                                                                  | HRS                                                                                                                                                                                                |
| CEB-RECN-5001 | Conduct engineer reconnaissance       | S/L  | Marine<br>Hours                                                                                                                                                                                                                  | 144                                                                                                                                                                                                |
| CLB-CMOB-5001 | Create an obstacle group              | L/S  | IDENTIFIED A: HOWEVER, DVT: CRITICAL ELEI CREATING OBS' DEPICTING SUI OBSTACLES (D. BASED UPON TI BEING CONDUCT FOR PLATOON (1)                                                                                                  | E LACKS A MENT FOR FACLES OR B-SURFACE IGGING) HE EVENT FED AS C2 STAFF                                                                                                                            |
| CLB-MOBL-5001 | Conduct obstacle breaching operations | S/L  | IDENTIFIED A: HOWEVER, DVT: CRITICAL ELEI CONDUCTING O: BREECHING OP: DEPICTING SUI OBSTACLES (D: 144                                                                                                                            | E LACKS A MENT FOR BSTACLE ERATIONS OR B-SURFACE IGGING)                                                                                                                                           |
|               | Conduct engineer                      | - 1- | Marine                                                                                                                                                                                                                           |                                                                                                                                                                                                    |
| CLB-RECN-5001 | reconnaissance                        | S/L  | Hours  IDENTIFIED A. HOWEVER, DVT. CRITICAL ELE CREATING OBS' DEPICTING SUI OBSTACLES (D. BASED UPON TI BEING CONDUCTOR PLATOON)                                                                                                 | E LACKS A MENT FOR FACLES OR B-SURFACE IGGING) HE EVENT FED AS C2                                                                                                                                  |
| ESB-CMOB-5001 | Create an obstacle group              | L/S  | 16 1                                                                                                                                                                                                                             |                                                                                                                                                                                                    |
| ESB-RECN-5001 | Conduct engineer reconnaissance       | S/L  | Marine<br>Hours                                                                                                                                                                                                                  | 144                                                                                                                                                                                                |
| CAB-MOBL-4001 | Conduct deliberate breach             | L/S  | Marine                                                                                                                                                                                                                           | 18                                                                                                                                                                                                 |
| CAB-MOBL-4001 | Conduct deliberate breach             | ц/δ  |                                                                                                                                                                                                                                  | ТΩ                                                                                                                                                                                                 |

|                  |                                |          | Hours          |             |
|------------------|--------------------------------|----------|----------------|-------------|
|                  |                                |          | Marine         |             |
| CAB-MOBL-4002    | Conduct hasty/in-stride breach | L/S      | Hours          | 18          |
| CAD MODEL 4002   | Detect obstacles during        | П/5      | CAPTURED UNDER | 10          |
| CAB-MOBL-4007    | clearance operations           | C /T     | CAB-MOBL-4005  |             |
| CAB-MOBL-4007    |                                | S/L      |                |             |
| ~ 1000           | Breach obstacles for clearance | ~ /-     | CAPTURED UNDER | CAB-        |
| CAB-MOBL-4008    | operations                     | S/L      | MOBL-5001      |             |
|                  |                                |          | CAPTURED UNDER | CAB-        |
| CAB-RECN-4001    | Conduct zone reconnaissance    | S/L      | RECN-5001      |             |
|                  |                                |          | CAPTURED UNDER | CAB-        |
| CAB-RECN-4002    | Conduct route reconnaissance   | S/L      | RECN-5001      |             |
|                  |                                |          | CAPTURED UNDER | CAB-        |
| CAB-RECN-4003    | Conduct area reconnaissance    | S/L      | RECN-5001      |             |
|                  | Conduct engineer               |          | CAPTURED UNDER | CAB-        |
| CAB-RECN-4005    | reconnaissance                 | S/L      | RECN-5001      |             |
|                  |                                |          | Marine         |             |
| CEB-MOBL-4001    | Conduct deliberate breach      | L/S      | Hours          | 18          |
|                  |                                |          | Marine         |             |
| CLB-MOBL-4005    | Conduct deliberate breach      | L/S      | Hours          | 18          |
| 022 11022 1000   | Conduct hasty/ in-stride       | 2,5      | Marine         |             |
| CEB-MOBL-4002    | breach                         | L/S      | Hours          | 18          |
| CED-MODL-4002    | Detect obstacles during        | ц/ъ      | CAPTURED UNDER | CEB-        |
| CED MODI 4007    | _                              | C /T     |                | CEB-        |
| CEB-MOBL-4007    | clearance operations           | S/L      | MOBL-4005      |             |
|                  | Breach obstacles for clearance |          | CAPTURED UNDER | CEB-        |
| CEB-MOBL-4008    | operations                     | S/L      | MOBL-5001      |             |
|                  |                                |          | CAPTURED UNDER | CEB-        |
| CEB-RECN-4001    | Conduct zone reconnaissance    | S/L      | RECN-5001      |             |
|                  |                                |          | CAPTURED UNDER | CEB-        |
| CEB-RECN-4002    | Conduct route reconnaissance   | S/L      | RECN-5001      |             |
|                  |                                |          | CAPTURED UNDER | CEB-        |
| CEB-RECN-4003    | Conduct area reconnaissance    | S/L      | RECN-5001      |             |
|                  | Conduct engineer               |          | CAPTURED UNDER | CEB-        |
| CEB-RECN-4005    | reconnaissance                 | S/L      | RECN-5001      |             |
|                  | Detect obstacles during        | <u> </u> | CAPTURED UNDER | CLB-        |
| CLB-MOBL-4002    | clearance operations           | S/L      | MOBL-4005      | 022         |
| 020 11002        | Breach obstacles for clearance | 5,2      | CAPTURED UNDER | CLB-        |
| CLB-MOBL-4003    | operations                     | S/L      | MOBL-4005      | СПВ         |
| CHD MODEL 4003   | operacions                     | 5/1      | CAPTURED UNDER | CLB-        |
| CLB-RECN-4003    | Conduct zone reconnaissance    | C /T     | RECN-5001      | СПР-        |
| CLB-RECN-4003    | Conduct zone reconnaissance    | S/L      |                | GI D        |
| GT D DEGIT 4004  |                                | G / T    | CAPTURED UNDER | CLB-        |
| CLB-RECN-4004    | Conduct route reconnaissance   | S/L      | RECN-5001      | ~           |
|                  |                                |          | CAPTURED UNDER | CLB-        |
| CLB-RECN-4005    | Conduct area reconnaissance    | S/L      | RECN-5001      |             |
|                  |                                |          | CAPTURED UNDER | ESB-        |
| ESB-RECN-4003    | Conduct zone reconnaissance    | S/L      | RECN-5001      |             |
|                  |                                |          | CAPTURED UNDER | ESB-        |
| ESB-RECN-4004    | Conduct route reconnaissance   | S/L      | RECN-5001      |             |
|                  |                                |          | CAPTURED UNDER | ESB-        |
| ESB-RECN-4005    | Conduct area reconnaissance    | S/L      | RECN-5001      |             |
|                  | Breach obstacles for clearance | •        | CAPTURED UNDER | ESB-        |
| ESB-MOBL-4003    | operations                     | S/L      | MOBL-5001      |             |
| 1000             |                                | 2/1      | Marine         |             |
| ESB-MOBL-4005    | Conduct deliberate breach      | L/S      | Hours          | 18          |
| - COO#-HOODI-GOG |                                | ц/δ      |                |             |
| EGD MODE 4000    | Detect obstacles during        | 0 /-     | CAPTURED UNDER | ESB-        |
| ESB-MOBL-4002    | clearance operations           | S/L      | MOBL-4005      | <b>G3</b> = |
|                  | Mark a lane through an         |          | CAPTURED UNDER | CAB-        |
| CAB-MOBL-3005    | obstacle                       | L/S      | MOBL-4005      |             |

| CAB-MOBL-3012 | Conduct limited route clearance operations            | S/L                                   | CAPTURED UNDER CAB- MOBL-5002  *IDENTIFIED AS PARTIAL HOWEVER, DVTE LACKS A CRITICAL ELEMENT FOR CONDUCTING ROUTE CLEARANCE OPERATIONS OR DEPICTING SUB-SURFACE OBSTACLES (DIGGING)  *VIRTUAL CLEARANCE TRAINING SYSTEM (VCTS) - ARMY - UTILIZED DURING JOINT TRAINING IS A MORE SUITABLE TRAINING SIMULATOR |
|---------------|-------------------------------------------------------|---------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|               |                                                       |                                       | CAPTURED UNDER CAB- MOBL-5002 *IDENTIFIED AS PARTIAL HOWEVER, DVTE LACKS A CRITICAL ELEMENT FOR CONDUCTING ROUTE CLEARANCE OPERATIONS OR DEPICTING SUB-SURFACE OBSTACLES (DIGGING) *VIRTUAL CLEARANCE TRAINING SYSTEM (VCTS) - ARMY - UTILIZED DURING JOINT TRAINING                                         |
| CAB-MOBL-3013 | Conduct area clearance operations                     | S/L                                   | IS A MORE SUITABLE TRAINING SIMULATOR                                                                                                                                                                                                                                                                        |
| CAD MODE 3013 | Conduct obstacle                                      | 5/1                                   | CAPTURED UNDER CAB-                                                                                                                                                                                                                                                                                          |
| CAB-RECN-3006 | reconnaissance                                        | S/L                                   | RECN-5001                                                                                                                                                                                                                                                                                                    |
| CAD DECM 2000 | Conduct wood wagannaiggangs                           | C /T                                  | CAPTURED UNDER CAB-<br>RECN-5001                                                                                                                                                                                                                                                                             |
| CAB-RECN-3008 | Conduct road reconnaissance  Breach obstacle with the | S/L                                   | Marine                                                                                                                                                                                                                                                                                                       |
| CEB-MOBL-3002 | Assault Breacher Vehicle (ABV)                        | S/L                                   | Hours 8                                                                                                                                                                                                                                                                                                      |
|               | Mark a lane through an                                |                                       | CAPTURED UNDER CEB-                                                                                                                                                                                                                                                                                          |
| CEB-MOBL-3006 | obstacle                                              | L/S                                   | MOBL-4005                                                                                                                                                                                                                                                                                                    |
| CEB-MOBL-3007 | Remotely detect explosive hazards                     | L/S                                   | CAPTURED UNDER CEB-<br>MOBL-4005                                                                                                                                                                                                                                                                             |
| CEB-MOBL-3014 | Conduct route clearance operations                    | S/L                                   | CAPTURED UNDER CEB- MOBL-5002 *IDENTIFIED AS PARTIAL HOWEVER, DVTE LACKS A CRITICAL ELEMENT FOR CONDUCTING ROUTE CLEARANCE OPERATIONS OR DEPICTING SUB-SURFACE OBSTACLES (DIGGING) *VIRTUAL CLEARANCE TRAINING SYSTEM (VCTS) - ARMY - UTILIZED DURING JOINT TRAINING IS A MORE SUITABLE TRAINING SIMULATOR   |
|               |                                                       | · · · · · · · · · · · · · · · · · · · | -                                                                                                                                                                                                                                                                                                            |

|                 | <u>,                                      </u>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |          |                   |             |
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|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |                   |             |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |                   |             |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |                   |             |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          | CAPTURED UNDI     | ER CEB-     |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          | MOBL-5002         |             |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          | *IDENTIFIED A     | AS PARTIAL  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          | HOWEVER, DVT      | TACKS A     |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          | CRITICAL ELEM     |             |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          | CONDUCTING RO     |             |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |                   |             |
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|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          | DEPICTING SUE     |             |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          | OBSTACLES (D      | •           |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          | *VIRTUAL CLEA     |             |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          | TRAINING SYST     |             |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          | - ARMY - UTII     | LIZED       |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          | DURING JOINT      | TRAINING    |
|                 | Conduct area clearance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          | IS A MORE SU      | ITABLE      |
| CEB-MOBL-3015   | operations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | S/L      | TRAINING SIM      | JLATOR      |
|                 | Conduct obstacle                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          | CAPTURED UNDI     |             |
| CEB-RECN-3006   | reconnaissance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | S/L      | RECN-5001         |             |
|                 | - ,                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |          | CAPTURED UND      | ER CEB-     |
| CEB-RECN-3008   | Conduct road reconnaissance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | S/L      | RECN-5001         | TI CHD-     |
| CRD-KECN-2000   | Conduct road reconnaissance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | р/ П     |                   | ID ECD      |
| EGD DEGT 2005   | Gandant made a                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | G /=     | CAPTURED UNDI     | ER ESB-     |
| ESB-RECN-3005   | Conduct road reconnaissance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | S/L      | RECN-5001         |             |
|                 | Mark a lane through an                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |          | CAPTURED UNDI     | ER ESB-     |
| ESB-MOBL-3007   | obstacle                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | L/S      | MOBL-4005         |             |
|                 | Conduct obstacle                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          | CAPTURED UND      | ER ESB-     |
| ESB-RECN-3003   | reconnaissance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | S/L      | RECN-5001         |             |
|                 | Conduct obstacle                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          | CAPTURED UNDI     | ER ESB-     |
| CLB-RECN-3003   | reconnaissance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | S/L      | RECN-5001         |             |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          | CAPTURED UND      | ER ESB-     |
| CLB-RECN-3005   | Conduct road reconnaissance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | S/L      | RECN-5001         |             |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <u> </u> | Marine            |             |
| 1371-CMOB-2001  | Recommend obstacle placement                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | S/L      | Hours             | 2           |
|                 | The second secon |          | Marine            |             |
| 1371-CMOB-2501  | Prepare an obstacle plan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | S/L      | Hours             | 2           |
| 1371 61102 2301 | Conduct obstacle breaching                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |          | CAPTURED CAB-     |             |
| 1371-MOBL-2012  | operations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | S/L      | CAFTORED CAB      |             |
| 13/1-MOBL-2012  | Operations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | ъ/ ц     | <u> </u>          |             |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          | SECONDARY TRA     |             |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          | COLLECTIVE CO     |             |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          | OPERATIONS (      | CCU) OR I-  |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          | TESS              |             |
|                 | Identify Explosive Hazards                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |          | CAPTURED UND      | ER CEB-     |
| 1371-MOBL-2022  | (EH)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | S/L      | MOBL-5002         |             |
|                 | Operate the Route Clearance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          |                   |             |
|                 | Vehicle Mounted Mine Detector                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |          | CAPTURED UND      | ER CEB-     |
| 1371-MOBL-2026  | (VMMD) Vehicle                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | S/L      | MOBL-5002         |             |
|                 | Operate the Route Clearance                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          |                   |             |
|                 | Vehicle's Government Furnished                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |          | CAPTURED UND      | ER CEB-     |
| 1371-MOBL-2027  | Equipment (GFE)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | S/L      | MOBL-5002         | 022         |
| 13/1 NODLI-202/ | Plan engineer aspects of gap                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ъ/ п     | CAPTURED CEB-     | -DT.AN-6001 |
| 1271 MODT 2502  | crossing operations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | C /T     |                   |             |
| 1371-MOBL-2503  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | S/L      | 0                 |             |
| 1271 MODE 0505  | Plan breaching of complex                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | G /T     | CAPTURE CAB-N     |             |
| 1371-MOBL-2505  | obstacles                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | S/L      | 0                 |             |
| 1001            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | - /-     | CAPTURED CEB-     |             |
| 1371-MOBL-2506  | Plan clearing operations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | S/L      | 0                 |             |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          | CAPTURED UND      | ER CEB-     |
|                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          | MOBL-5002, SI     |             |
| i e             | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | G /T     | -                 |             |
| 1371-MOBI2507   | Lead clearing operations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | S/1.     | I TRAINER 1-1.E.S | מה          |
| 1371-MOBL-2507  | Lead clearing operations Operate ABV commander's                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | S/L      | TRAINER I-TES     | סס          |
| 1371-MOBL-2507  | Lead clearing operations  Operate ABV commander's station                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | S/L      | Marine<br>Hours   | 1           |

|                |                              |     | Marine       |         |
|----------------|------------------------------|-----|--------------|---------|
| 1372-MOBL-1003 | Operate ABV driver's station | S/L | Hours        | 1       |
|                |                              |     | Marine       |         |
| 1372-MOBL-1005 | Mark breach lane using ABV   | S/L | Hours        | 1       |
|                |                              |     | Marine       |         |
| 1302-CMOB-1001 | Lead obstacle emplacement    | S/L | Hours        | 2       |
|                |                              |     | Marine       |         |
| 1302-CMOB-1002 | Prepare an obstacle plan     | S/L | Hours        | 4       |
|                |                              |     | Marine       |         |
| 1302-DEMO-1004 | Lead demolition operations   | S/L | Hours        | 12      |
|                | Lead dismounted clearing     |     | CAPTURED UND | ER CEB- |
| 1302-MOBL-1002 | operations                   | S/L | MOBL-5002    |         |
|                | Lead mounted clearing        |     | CAPTURED UND | ER CEB- |
| 1302-MOBL-1003 | operations                   | S/L | MOBL-5002    |         |
|                |                              |     | CAPTURED UND | ER CEB- |
| 1302-MOBL-1004 | Lead a convoy                | S/L | MOBL-5002    |         |
|                | Plan breaching of a complex  |     | CAPTURED UND | ER CEB- |
| 1302-MOBL-1007 | obstacle                     | S/L | MOBL-5001    |         |
|                |                              |     | SECONDARY I- | ress    |
|                | Identify Explosive Hazards   |     | CAPTURED UND | ER CEB- |
| 1302-MOBL-1009 | (EH)                         | S/L | MOBL-5002    |         |

## MTWS

|                |                              | Suitability | Unit of         |           |
|----------------|------------------------------|-------------|-----------------|-----------|
| Event Code     | Event Title                  | Code        | Measure         | Hours     |
|                |                              |             |                 | CACCTUS   |
|                |                              |             |                 | EMPLOYED  |
|                |                              |             | Unit hours      | AS        |
|                | Command and control engineer |             |                 | SECONDARY |
| CAB-ADMN-7001  | forces                       | L/S         |                 | 40 HOURS  |
|                |                              |             | CAPTURED WITH   | HIN       |
| CAB-PLAN-7001  | Plan engineer operations     | L/S         | CAB-ADMN-7001   | 1         |
|                |                              |             |                 | CACCTUS   |
|                |                              |             |                 | EMPLOYED  |
|                |                              |             | Unit hours      | AS        |
|                | Command and control engineer |             |                 | SECONDARY |
| CEB-ADMN-7001  | forces                       | L/S         |                 | 40 HOURS  |
|                |                              |             | CAPTURED        | WITHIN    |
| CEB-PLAN-7001  | Plan engineer operations     | L/S         | CEB-ADM         | N-7001    |
|                |                              |             | Unit hours      | CACCTUS   |
|                |                              |             |                 | EMPLOYED  |
|                |                              |             |                 | AS        |
|                | Command and control engineer |             |                 | SECONDARY |
| ESB-ADMN-7001  | forces                       | L/S         |                 | 40 HOURS  |
|                |                              |             | CAPTURED WITH   | HIN       |
| ESB-PLAN-7001  | Plan engineer operations     | L/S         | ESB-ADMN-700    | 1         |
|                |                              |             | CAPTURED WITHIN |           |
| 1302-MOBL-1014 | Lead gap crossing operation  | S/L         | CAB-PLAN-7001   |           |
|                |                              |             | CAPTURED WITH   | HIN       |
| 1302-PLAN-1001 | Provide an engineer estimate | S/L         | CAB-PLAN-700    | 1         |

# IIT

|               |                                | Suitability | Unit of      |           |
|---------------|--------------------------------|-------------|--------------|-----------|
| Event Code    | Event Title                    | Code        | Measure      | Hours     |
|               | Conduct dismounted route sweep |             | Squad 3 HRS  | SECONDARY |
| CAB-MOBL-4005 | operations                     | L/S         | I-TESS = 72  | HOURS     |
|               | Conduct security for clearance |             | CAPTURED UND | ER        |
| CAB-MOBL-4006 | operations                     | L/S         | CAB-MOBL-400 | 5         |

|                | Conduct dismounted route sweep |       | Squad 3 HRS SECONDARY |  |
|----------------|--------------------------------|-------|-----------------------|--|
| CEB-MOBL-4005  | operations                     | L/S   | I-TESS = 72 HOURS     |  |
|                | Conduct dismounted route sweep |       | Squad 3 HRS SECONDARY |  |
| CLB-MOBL-4004  | operations                     | L/S   | I-TESS = 72 HOURS     |  |
|                | Conduct security for clearance |       | CAPTURED UNDER        |  |
| CEB-MOBL-4006  | operations                     | L/S   | CEB-MOBL-4005         |  |
| CED MODE 4000  | Conduct security for clearance | 11/5  | CAPTURED UNDER        |  |
| CLB-MOBL-4001  | operations                     | L/S   | CLB-MOBL-4005         |  |
| CLB-MOBL-4001  | Conduct security for clearance | П/ Б  | CAPTURED UNDER        |  |
| ESB-MOBL-4001  | _                              | T / C | ESB-MOBL-4005         |  |
| ESB-MOBL-4001  | operations                     | L/S   | ESB-MOBL-4005         |  |
| EGD MODE 4004  | Conduct dismounted route sweep | T / C | Squad Hours 3         |  |
| ESB-MOBL-4004  | operations                     | L/S   | 5 1 ttt 1             |  |
|                | Create a lane through an       |       | CAPTURED UNDER        |  |
| CAB-MOBL-3003  | obstacle                       | L/S   | CAB-MOBL-4005         |  |
|                | Proof a lane through an        |       | CAPTURED UNDER        |  |
| CAB-MOBL-3004  | obstacle                       | L/S   | CAB-MOBL-4005         |  |
|                | Create a lane through an       |       | CAPTURED UNDER        |  |
| CEB-MOBL-3004  | obstacle                       | L/S   | CEB-MOBL-4005         |  |
|                | Proof a lane through an        |       | CAPTURED UNDER        |  |
| CEB-MOBL-3005  | obstacle                       | L/S   | CEB-MOBL-4005         |  |
|                | Proof a lane through an        |       | CAPTURED UNDER        |  |
| ESB-MOBL-3006  | obstacle                       | L/S   | ESB-MOBL-4005         |  |
|                | Create a lane through an       |       | CAPTURED UNDER        |  |
| ESB-MOBL-3005  | obstacle                       | L/S   | ESB-MOBL-4005         |  |
|                |                                |       | CAPTURED UNDER        |  |
|                |                                |       | CAB-MOBL-4007         |  |
|                |                                |       | SECONDARY TRAINER I-  |  |
| 1371-MOBL-2018 | Lead a dismounted route sweep  | S/L   | TESS                  |  |

## AGTS

| Event Code     | Event Title             | Suitability<br>Code | Unit of<br>Measure | Hours |
|----------------|-------------------------|---------------------|--------------------|-------|
|                |                         | S/L                 |                    | 2     |
| 1372-MOBL-1006 | Operate weapons systems |                     | Crew Hours         |       |

# ISMT

|                 |                                | Suitability | Unit of |            |
|-----------------|--------------------------------|-------------|---------|------------|
| Event Code      | Event Title                    | Code        | Measure | Hours      |
|                 |                                |             |         | 16         |
|                 |                                |             |         | SECONDARY  |
|                 |                                |             |         | IS THE     |
|                 |                                |             |         | COLLECTIVE |
|                 |                                |             |         | CONVOY     |
|                 |                                |             | Marine  | OPERATIONS |
| CAB-MOBL-3001   | Engage targets with MK153 SMAW | S/L         | Hours   | (CCO)      |
|                 |                                |             | Marine  | 8          |
|                 |                                |             | Hours   | SECONDARY  |
|                 |                                |             |         | IS THE     |
|                 |                                |             |         | COLLECTIVE |
|                 |                                |             |         | CONVOY     |
|                 | Employ a medium machinegun     |             |         | OPERATIONS |
| CAB-MOBL-3008   | team                           | S/L         |         | (CCO)      |
|                 |                                |             | Marine  |            |
| CAB-MOBL-3009   | Employ a heavy machinegun team | S/L         | Hours   | 8          |
| CVD-1400DT-2003 | Emproy a neavy machinegum ceam | 5/Ц         | Marine  | U          |
|                 |                                |             | Hours   |            |
| CEB-MOBL-3001   | Engage targets with MK153 SMAW | S/L         | HOULS   | 16         |

| CEB-MOBL-3009  | Employ a medium machinegun team             | S/L | Marine<br>Hours | 16         |
|----------------|---------------------------------------------|-----|-----------------|------------|
| CID HODE SOOS  | ccam                                        | 5/1 | Marine<br>Hours | 10         |
| CEB-MOBL-3010  | Employ a heavy machinegun team              | S/L | HOULS           | 16         |
|                | Employ a medium machinegun                  |     | Marine<br>Hours | 1.6        |
| ESB-MOBL-3002  | team                                        | S/L | Marine          | 16         |
| ESB-MOBL-3003  | Employ a heavy machinegun team              | S/L | Hours           | 16         |
| CLB-MOBL-3002  | Employ a medium machinegun team             | S/L | Marine<br>Hours | 16         |
| CLB-MOBL-3003  | Employ a heavy machinegun team              | S/L | Marine<br>Hours | 16         |
| 1371-MOBL-2013 | Engage stationary targets with the shotgun  | S/L | Marine<br>Hours | 1          |
| 1371-MOBL-2014 | Perform select shot drills with the shotgun | S/L | CAPTURE 1371    | -MOBL-2013 |
| 1371-MOBL-2015 | Qualify with the shotgun                    | S/L | CAPTURE 1371    | -MOBL-2013 |
| 1371-MOBL-1006 | Employ the MK 153 SMAW                      | S/L | CAPTURED CEB    | -MOBL-3001 |

## I-TESS

|                 |                                | Suitability | Unit of    |             |
|-----------------|--------------------------------|-------------|------------|-------------|
| Event Code      | Event Title                    | Code        | Measure    | Hours       |
|                 |                                |             |            | 80 HRS      |
|                 |                                |             |            | IIT         |
|                 |                                |             | _          | SECONDARY = |
|                 |                                |             | Unit Hours | 36 HOURS    |
| CAB-PINF-6001   | Provide provisional infantry   | S/L         |            |             |
|                 |                                |             | Unit Hours |             |
| CEB-PINF-6001   | Provide provisional infantry   | S/L         |            | 80          |
|                 |                                |             | Unit Hours |             |
| CLB-PINF-6001   | Provide provisional infantry   | L/S         |            | 80          |
|                 |                                | , .=        | Unit Hours |             |
| TGD DTITE 6001  |                                | T / G       |            | 0.0         |
| ESB-PINF-6001   | Provide provisional infantry   | L/S         | Unit Hours | 80          |
|                 |                                |             | Unit Hours |             |
| CAB-PINF-5001   | Fight as provisional infantry  | S/L         |            | 120         |
|                 |                                |             | Unit Hours |             |
| CAB-RECN-5002   | Conduct cache sweep operations | S/L         |            | 80          |
|                 |                                |             | Unit Hours |             |
| CEB-PINF-5001   | Fight as provisional infantry  | S/L         |            | 120         |
|                 |                                |             | Unit Hours |             |
| CEB-RECN-5002   | Conduct cache sweep operations | S/L         |            | 80          |
| 022 112011 5002 | conduct cache sweep operations | 272         | Unit Hours |             |
| GLD DINE FOOT   | Dick as accorded and infection | G /T        |            | 100         |
| CLB-PINF-5001   | Fight as provisional infantry  | S/L         | Unit Hours | 120         |
|                 |                                |             | OHIL HOURS |             |
| CLB-RECN-5002   | Conduct cache sweep operations | S/L         |            | 80          |
|                 |                                |             | Unit Hours |             |
| ESB-PINF-5001   | Fight as provisional infantry  | S/L         |            | 120         |

|               |                                |     | Unit Hours                      |    |
|---------------|--------------------------------|-----|---------------------------------|----|
| ESB-RECN-5002 | Conduct cache sweep operations | S/L |                                 | 80 |
| CAB-PINF-4001 | Fight as provisional infantry  | S/L | CAPTURED UND<br>CAB-PINF-500    |    |
| CAB-RECN-4004 | Conduct cache sweep            | S/L | CAPTURED UND<br>CAB-RECN-500    |    |
| CEB-PINF-4001 | Fight as provisional infantry  | S/L | CAPTURED UND<br>CEB-PINF-500    |    |
| CLB-PINF-4001 | Fight as provisional infantry  | S/L | CAPTURED UND CLB-PINF-500       |    |
| CEB-RECN-4004 | Conduct cache sweep            | S/L | CAPTURED UND<br>CEB-RECN-500    |    |
| CLB-RECN-4002 | Conduct cache sweep operations | S/L | CAPTURED UND CLB-RECN-500       |    |
| ESB-RECN-4002 | Conduct cache sweep            | S/L | CAPTURED UND<br>ESB-RECN-500    |    |
| ESB-PINF-4001 | Fight as provisional infantry  | S/L | CAPTURED UND<br>ESB-PINF-500    |    |
| CAB-RECN-3003 | Conduct cache sweep            | S/L | CAPTURED UND<br>CAB-RECN-500    |    |
| CEB-RECN-3003 | Conduct cache sweep            | S/L | CAPTURED UNDER<br>CEB-RECN-5002 |    |
| ESB-RECN-3002 | Conduct cache sweep            | S/L | CAPTURED UND<br>ESB-RECN-500    |    |
| CLB-RECN-3002 | Conduct cache sweep            | L/S | CAPTURED UND<br>ESB-RECN-500    |    |

## ODS

|                |                               | Suitability | Unit of |       |
|----------------|-------------------------------|-------------|---------|-------|
| Event Code     | Event Title                   | Code        | Measure | Hours |
|                | Operate the Route Clearance   |             |         |       |
|                | Medium Mine Protected Vehicle |             | Marine  |       |
| 1371-MOBL-2024 | (MMPV)                        | S/L         | Hours   | 8     |
|                | Operate the Route Clearance   |             |         |       |
|                | Mine Protected Clearance      |             | Marine  |       |
| 1371-MOBL-2025 | Vehicle (MPCV)                | S/L         | Hours   | 8     |