DEPARTMENT OF THE NAVY
HEADQUARTERS UNITED STATES MARINE CORPS
3000 MARINE CORPS PENTAGON
WASHINGTON, DC 20350-3000

NAVMC 3500.117A
C 466
12 Sep 2018

NAVMC 3500.117A

From: Commandant of the Marine Corps
To: Distribution List

Subj: MARINE WING SUPPORT SQUADRON TRAINING AND READINESS MANUAL

Ref: (a) MCO P3500.72A
(b) MCO 1553.3B
(c) MCTP 8-10A
(d) MCTP 8-10B

Encl: (1) MWSS T&R Manual

1. Purpose. 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 and assigned Navy personnel in the Marine Wing Support Squadrons.

2. Cancellation. NAVMC 3500.117.

3. Scope. 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 and assigned Navy personnel. References (c) and (d) provide amplifying information for effective planning and management of training within the unit.

4. Information. 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 the 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 466), 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.

W. F. MULLEN III
By direction

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MWSS T&R MANUAL

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CHAPTER 1

OVERVIEW

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OVERVIEW

1000. INTRODUCTION

1. The training and readiness (T&R) program is the Corps' primary tool for planning, conducting and evaluating training, and assessing training readiness. Subject matter experts (SME) from the operating forces (OPFOR) developed core capability mission essential task lists (METL) for ground communities derived from the Marine Corps task list. This T&R Manual is built around these METLs and other related Marine Corps tasks (MCT). All events contained in this 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. This T&R Manual contains the collective and individual training requirements to prepare units to accomplish their combat mission. This 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. This 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. This T&R Manual is designed for use by unit commanders to determine pre-deployment training requirements in preparation for training and for formal schools and training detachments to create programs of instruction. This manual focuses on individual and collective tasks performed by OPFOR units and supervised by personnel in the performance of unit mission essential task(s) (MET).

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.

2. Commanders will ensure that all training is focused on their combat mission. Unit training should focus on achieving proficiency in the unit METL. This T&R Manual is a tool to help develop the unit's training plan based on the unit METL, as approved by their higher commander and reported in the Defense Readiness Reporting System (DRRS). Training will support the unit METL and be designed to meet T&R standards. Commanders at all levels are responsible for effective combat training. The conduct of standards based training consistent with Marine Corps T&R standards cannot be over emphasized.

1002. UNIT TRAINING MANAGEMENT

1. Effective unit training management (UTM) focuses the overall organization on development of training plans based on the unit METL and standards-based community T&R events. 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 mission.

2. Unit training management techniques, described in reference (b), (c), and (d) provide commanders with the requisite tools and techniques to analyze, design, develop, implement, and evaluate the training of their unit. To maintain an efficient and effective training program, leaders at every level must understand and implement UTM.

1003. SUSTAINMENT AND EVALUATION OF TRAINING

1. Marines are expected to maintain proficiency in the training events for their military occupational specialty (MOS) at the appropriate grade or billet to which assigned. Leaders are responsible for recording the training achievements of their Marines. For collective or individual training events not executed and evaluated as part of the daily routine, leaders must ensure proficiency is sustained by requiring retraining of each event at or before expiration of the designated sustainment interval.

2. 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). 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.

3. 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.

1004. ORGANIZATION. This Marine Wing Support Squadron T&R Manual is comprised of 3 chapters and 4 appendices. Chapter 1 is an overview of the ground T&R program. Chapter 2 lists the core METs/MCTs supported by the Marine Wing Support Squadron, which are used as part of DRRS. Chapter 3 contains collective events. Appendix A contains acronyms and abbreviations; Appendix B contains terms and definitions; Appendix C contains class v(w) allocation for training; Appendix D contains list of events that require simulation.

1005. T&R EVENT CODING

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, 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-level events are appropriate for section-level events as noted, but also for squad-level events.

Collective Training **Command Element**	**Collective Training** **Regiment/Group**	**Collective Training** **Battalion/Squadron**
9000-level	8000-level	7000-level
Collective Training **Company**	**Collective Training** **Platoon**	**Collective Training** **Squad**
6000-level	5000-level	4000-level
Collective Training **Team/Section/Crew**	**Individual Training** **Skills Progression** **MOJT, Advanced Level Schools** **(Core Plus Skills)**	**Individual Training** **Entry-Level** **Formal School Training** **(Core Skills)**
3000-level	2000-level	1000-level

Figure. 1-1 T&R Event Levels

2. Grouping. 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 this 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 (OccFld), then the events should start 4431-ADMN-1001 and run through 1007. Next, the bulk fuel events, BUFL should start at 4431-BUFL-1001.

3. Sequencing. A numerical code is assigned to each collective (3000-9000 level) or individual (1000-2000 level) training event. The first number identifies the size of the unit performing the event, as depicted in figure 1-1. Exception: Events that relate to staff planning, to 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 force (MAGTF) command element events. An example of event coding is displayed in figure 1-2.

Functional Area

MOS/Community--------> ####-**####**-**#**### <-1st event in sequence

Event level

Figure 1-2. T&R Event Coding

1006. T&R EVENT COMPOSITION

1. An event contained within a T&R manual is a collective or individual training standard. This section explains each of the components that make up the 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.

2. An example of a collective T&R event is provided in figure 1-3 and an example of an individual T&R event is provided in figure 1-4. Events shown in figures are for illustrative purposes only and are not actual T&R events.

XXXX-XXXX-####: Provide interior guard

SUPPORTED MET(S): MCT #.#.#

EVALUATION CODED: YES/NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Text

CONDITION: Text

STANDARD: Text

EVENT COMPONENTS:
1. Event component.
2. Event component.
3. Event component.

REFERENCES:
1. Reference
2. Reference
3. Reference

PREREQUISITE EVENTS:
XXXX-XXXX-#### XXXX-XXXX-####

INTERNAL SUPPORTED:
XXXX-XXXX-#### XXXX-XXXX-####

INTERNAL SUPPORTING:
XXXX-XXXX-#### XXXX-XXXX-####

SUPPORT REQUIREMENTS:

  EQUIPMENT: XXX

MISCELLANEOUS: XXX

  ADMINISTRATIVE INSTRUCTIONS: XXX

Figure 1-3. Example of a Collective T&R Event

XXXX-XXXX-####: Stand a sentry post

EVALUATION CODED: NO SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Text

MOS PERFORMING: ####, ####

INITIAL TRAINING SETTING: XXX

CONDITION: Text

STANDARD: Text

PERFORMANCE STEPS:
1. Event component.
2. Event component.
3. Event component.

REFERENCES:
1. Reference
2. Reference
3. Reference

PREREQUISITE EVENTS:
XXXX-XXXX-#### XXXX-XXXX-####

INTERNAL SUPPORTED:
XXXX-XXXX-#### XXXX-XXXX-####

INTERNAL SUPPORTING:
XXXX-XXXX-#### XXXX-XXXX-####

SUPPORT REQUIREMENTS:

  EQUIPMENT: XXX

MISCELLANEOUS: XXX

  ADMINISTRATIVE INSTRUCTIONS: XXX

Figure 1-4. Example of an Individual Event

1. Event Code. The event code is explained in paragraph 1005.

2. Title. The name of the event. The event title contains one action verb and one object.

3. Evaluation-Coded (E-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 E-Coded events represent the irreducible minimum or the floor of readiness for a unit. These E-Coded events are derived from the training measures of effectiveness (MOE) for the METs for units that must report readiness in 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. Supported MET(s). List all METs that are supported by the training event in the judgment of the OccFld drafting the T&R manual, even if those events are not listed as MOE in a MET.

5. Sustainment Interval. It is critical to understand the intent of the sustainment interval so training time is not wasted with duplicated training. Sustainment interval is expressed in number of months. Most individual T&R events and many lower level collective events are never out of sustainment because they are either part of a Marine's daily routine, or are frequently executed within the sustainment interval. Sustainment interval is relevant when an individual or collective event is not observed and evaluated within the sustainment period, has atrophied, and therefore retraining and evaluation is required.

6. Billet/MOS. 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. Grade. The grade field indicates the rank at which Marines are required to complete the event.

8. Description. 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 is required for collective events. This field can be of great value guiding a formal school or OPFOR unit trying to discern the intent behind an event that might not be readily apparent.

9. Condition. 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. Standard. 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 and event descriptions. The event components help the user determine what must be accomplished and the proper sequence of execution of subordinate events. 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 OPFORs. They must be sequenced to demonstrate the building block approach to training.

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.

12. Chained Events. Enables unit leaders to effectively identify prerequisite, supporting, and supported events that ultimately support MCTs/METs. Supported events are chained to supporting events to enable the accomplishment of the supported event to standard and therefore are considered "chained". The completion of identified supported events can be utilized to update sustainment interval credit for supporting events, based on the assessment of the commander.

13. Prerequisite Events. 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.

14. Supported Event. An event whose performance is inherently supported by the performance of one or more supporting events. A supported event will be classified as internal supported if it has been developed specifically for

the community. A supported event that has been chained to an event from an external community T&R will be classified as external supported.

15. Supporting Event. An event whose performance inherently supports the performance of a supported event. A supporting event will be classified as internal supporting if it has been developed specifically for the community. A supporting event that has been chained to a community event from an external community T&R will be classified as external supporting.

16. Initial Training Setting. All individual events will designate the setting at which the skill is first taught, either formally, Marine on the Job Training (MOJT) within the OPFOR, or via a distance learning product (DL).

17. References. 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. For individual events only one authoritative reference is required.

18. Distance Learning Products. Distance learning products include: Individual multimedia instruction, computer-based training, MarineNet, etc. This notation is included when, in the opinion of the T&R manual group charter in consultation with the Marine Air-Ground Task Force T&R Standards Division representative, the event can be taught via one of these media vice attending a formal course of instruction or receiving MOJT.

19. 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
- 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 OccFld representatives will be careful not to "double count" ammunition that might be employed in the performance of collective and individual events that are chained.

20. Suitability of Simulation/Simulators/DL products. The following "Suitability and Sequence" codes listed in figure 1-5 have been developed to communicate characteristics for employing simulations during training. Units of measure have been assigned based on the amount of time it takes a Marine or unit to train to task utilizing a particular simulator. Suitability and sequence codes are captured in the event title in a parenthetical remark, as well as within the simulation field of the T&R event. The simulation field

also identifies the type of simulation, units of measure, and any other pertinent information.

Code	Requirement
L	The event can only be trained to standard in a Live environment. Any event assessed as "NO" for Simulatab1e was coded "L."
P	The event must be performed to standard in simulator as a PREREQUISITE to live fire qualification as per current doctrine, policy, or T&R manual.
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.
S	Event can ONLY be conducted to standard and qualification in simulator.

Figure 1-5. Suitability and sequence codes

a. Training simulation capabilities offer an opportunity to build and sustain proficiency while achieving and/or maintaining certain economies. Commanders should take into consideration simulation tools as a matter of course when designing training.

b. Simulation Terms:

(1) Simulation: A model of a system animated discretely or continuously over a period of time. A simulation may be closed-loop (i.e., it executes based in initial inputs without human intervention), or it may be open-loop (i.e., human input to alter the variables in the system during execution is allowed). A simulation is an approximation of how the modeled system will behave over time. Simulations are constructed based on verified and validated mathematical models of actual systems. Simulations can be very simple or complex depending on the degree of fidelity and resolution needed to understand the behavior of a system.

(2) Simulator: A simulator is the physical apparatus employed as the interface for humans to interact with a model or observe its output. A simulator has input controls and outputs in the form of human sensory stimuli (visual, auditory, olfactory, tactile/haptic, and taste). For instance, some of the features of the vehicle cab (the seat, steering wheel, turn signals, accelerator pedal, brakes, and windshield) and projection screen. Both the vehicle cab and projection screen are the interface by which a human being interacts with the simulated environment of a driving a vehicle and observe the outputs of the mathematical models of vehicle dynamics.

(3) Model: A mathematical representation of the behavior (i.e., shows the behavior of projectiles, combat simulations, etc.) of a system at a distinct point in time.

(4) Live: Real people operates real systems to include both live people operating real platforms or systems on a training range and battle staffs from joint, component or service tactical headquarters using real world command and control systems.

(5) Virtual: Real people operating simulated systems. Virtual simulations inject humans-in-the-loop in a central role by exercising motor control skills (e.g., flying an air platform simulator, engaging targets in indoor simulated marksmanship trainer), decision skills, and/or communication skills.

(6) Constructive: Models and simulations that involve simulated people operating simulated systems (i.e., MAGTF Tactical Warfare Simulation). Real people make inputs to such simulations, but are not involved in determining the outcomes.

(7) Live, Virtual and Constructive (LVC) Training Environment: Defined by combining any of the three training domains LVC to create a common operational environment, by which units can interact across LVC domains as though they are physically located in the same operational environment.

(8) Distance Learning: Any instruction and evaluation provided through a variety of DL delivery systems (i.e., MarineNet) where the students and instructors are separated by time and/or location.

c. Figure 1-6 depicts an event title with simulation code and simulation and/or simulators that can be used, as displayed within a T&R event.

XXXX-XXX-XXXX: Call for indirect fire using the grid method (L/S)

SUPPORT REQUIREMENTS:

SIMULATION EVALUATION:

SIMULATED	SUITABILITY	SIMULATOR	UNIT OF MEASURE	HOURS	PM
Yes	L/S	ODS	Marine Hours	12	Y

Figure 1-6. Example of simulation/simulators displayed within a T&R event

21. Miscellaneous

a. This field provides space for any additional information that will assist in the planning and execution of the event. Units and formal learning centers 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

1007. COMBAT READINESS PERCENTAGE (CRP)

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 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 E-Coded Events. E-Coded events and unit CRP calculation are described in follow-on paragraphs. The CRP achieved through the completion of E-Coded Events is directly relevant to readiness assessment in DRRS.

1008. 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. The 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%

3. Combat readiness percentage is a valuable tool to assist commanders in readiness reporting by providing objective data to support and inform their subjective assessment.

1009. CHEMICAL BIOLOGICAL RADIOLOGICAL NUCLEAR TRAINING

1. All personnel assigned to the OPFOR 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 OPFOR are capable of performing their assigned mission in "every clime 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. RISK MANAGEMENT (RM)

1. Risk management is a process that enables commanders to plan for and minimize risk while still accomplishing the mission. It is a tool to aid decision making used by Marines at all levels to increase effectiveness by anticipating hazards and reducing the potential for loss, thereby increasing the probability of success. Risk management minimizes risks to acceptable levels, commensurate with mission accomplishment.

2. All leaders and Marines will integrate RM in the planning process and implement hazard controls to reduce risk to acceptable levels. Applying the RM process will reduce mishaps, injuries, and damage they cause, thereby increasing both individual performance and unit readiness. Risk management assists the commander in avoiding unnecessary risk, determining the balance between training realism and unnecessary risks in training, making an informed decision to implement a course of action, identifying feasible and effective control measures, adjusting training plans to fit the level of proficiency and experience of Marines/Sailors, and providing reasonable alternatives for mission accomplishment.

3. Specifically, commanders are required to implement and document deliberate RM in the planning and execution of all training evolutions and

activities. Furthermore, the authority to approve or accept risk assessment code (RAC) 1 or 2 hazards will not be delegated below lieutenant colonel (O5). Further guidance for RM is found in Marine Corps Order 3500.27_.

1012. IMPROVISED EXPLOSIVE TRAINING

1. Improvised explosive device (IED) threat impacts all elements of the MAGTF and all Marines regardless of MOS, location, or operational environment. The ability to effectively operate and survive in environments with an IED threat is critical to force protection, maintaining combat effectiveness, and mission accomplishment.

2. Per Marine Corps policy on organizing, training, and equipping for operations in an IED environment (MCO 3502.9), Marines must be capable of not only accomplishing their assigned mission, but also accomplishing their mission in environments with an IED threat. Counter-improvised explosive device (C-IED) training must be integrated into the unit training plan in order-to ensure personnel assigned to the OPFOR train and maintain proficiency in C-IED tactics, techniques, and procedures.

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CHAPTER 2

MISSION-ESSENTIAL TASKS

CHAPTER 2

MISSION-ESSENTIAL TASKS

2000. CORE MISSION-ESSENTIAL TASK LIST (METL). The MET tables list the standardized core METs, derived from the Marine Corps Task List (MCTL), for the Marine Wing Support Squadron and the Marine Wing Support Detachments (MWSD-24 and MWSD-31). This METL is used for readiness reporting in the Defense Readiness Reporting System (DRRS).

2001. MARINE WING SUPPORT SQUADRON CORE METS

MCT 1.4.1.5 Conduct Forward Aviation Combat Engineering (FACE) Operations	
AOPS-EAF-4001	Provide aircraft arrestment capability
AOPS-EAF-4002	Provide visual landing aids for terminal guidance of aircraft
AOPS-EAF-4003	Provide airfield lighting and marking
AOPS-EAF-4004	Conduct aircraft arrestment operations
AOPS-EAF-4005	Conduct Landing Zone (LZ) site survey
AOPS-EAF-5001	Provide Expeditionary Airfield (EAF) services
AOPS-EAF-6001	Plan Expeditionary Airfield (EAF) services
AOPS-EFR-4001	Conduct structural firefighting operations
AOPS-EFR-4002	Conduct Aircraft Rescue and Fire Fighting (ARFF)
AOPS-EFR-5001	Provide EFR services
AOPS-EFR-5002	Provide initial response to mass casualty
AOPS-EFR-6001	Plan Expeditionary Fire Fighting and Rescue (EFR) services
AOPS-EOD-4001	Provide EOD Support to Base Recovery After Attack (BRAAT)
AOPS-EOD-4002	Conduct exploitation on enemy ordnance or capabilities that impact flight operations
AOPS-EOD-4004	Conduct full spectrum EOD operations
AOPS-EOD-4005	Conduct download of Aircraft Explosive Hazard (AEH)
AOPS-EOD-4006	Provide response to Forward Arming and Refueling Point (FARP)
AOPS-FUEL-3001	Maintain bulk fuel distribution site
AOPS-FUEL-3003	Conduct mobile fueling operations
AOPS-FUEL-4001	Maintain bulk fuel distribution site
AOPS-FUEL-5001	Conduct Aviation refueling
AOPS-FUEL-5002	Construct bulk fuel site
AOPS-FUEL-5003	Conduct tactical bulk fuel operations
AOPS-OPS-6001	Provide Airfield Operations services
AOPS-PLAN-6001	Plan airfield support services
ENGR-CMOB-3001	Employ explosive obstacles
ENGR-CMOB-3002	Build non-explosive obstacles
ENGR-CMOB-4001	Create an explosive obstacle
ENGR-CMOB-4002	Create a non-explosive obstacle/barriers
ENGR-CMOB-5001	Create an obstacle group (S/L)
ENGR-CMOB-6001	Conduct Countermobility operations (S/L)
ENGR-DEMO-5001	Conduct demolition operations
ENGR-EQIP-3001	Provide crane support
ENGR-EQIP-3002	Provide Material Handling Equipment (MHE) support

ENGR-EQIP-3003	Provide construction equipment support
ENGR-EQIP-3004	Conduct Foreign Object Debris (FOD) Mitigation
ENGR-EQIP-4001	Conduct Material Handling Equipment (MHE) operations
ENGR-EQIP-5001	Provide engineer equipment support
ENGR-HORZ-3001	Conduct dust abatement
ENGR-HORZ-4001	Conduct horizontal construction
ENGR-HORZ-5001	Conduct horizontal construction
ENGR-MANT-5001	Maintain engineer equipment
ENGR-MOBL-4001	Conduct route improvement
ENGR-MOBL-4002	Repair runway crater
ENGR-MOBL-4003	Repair spall(s)
ENGR-MOBL-4004	Conduct dismounted route sweep operations (S/L)
ENGR-MOBL-4005	Employ demolitions in support of mobility operations (S/L)
ENGR-MOBL-5001	Conduct Airfield Damage Repair (ADR)
ENGR-MOBL-5002	Construct Landing Zones (LZ)
ENGR-MOBL-5003	Conduct area clearance operations
ENGR-OPS-6001	Provide essential engineering services
ENGR-PLAN-6001	Plan engineer operations (S/L)
ENGR-RECN-3001	Assess damage to airfield surfaces
ENGR-RECN-3002	Assess damage to airfield facilities and structures
ENGR-RECN-3003	Survey site for construction
ENGR-RECN-3004	Conduct obstacle reconnaissance (S/L)
ENGR-RECN-3005	Conduct bridge reconnaissance
ENGR-RECN-3006	Conduct road reconnaissance (S/L)
ENGR-RECN-4001	Conduct site survey
ENGR-RECN-4002	Conduct zone reconnaissance (S/L)
ENGR-RECN-4003	Conduct route reconnaissance (S/L)
ENGR-RECN-4004	Conduct area reconnaissance (S/L)
ENGR-RECN-5001	Conduct engineer reconnaissance (S/L)
ENGR-SURV-3002	Construct fighting position
ENGR-SURV-3005	Construct shelters
ENGR-SURV-3006	Construct vehicle fighting position
ENGR-SURV-4001	Harden existing structure
ENGR-SURV-4007	Construct vehicle protective position
ENGR-SURV-5001	Construct survivability positions
ENGR-SURV-5002	Harden existing structure(s)
ENGR-VERT-3001	Fell standing timber
ENGR-VERT-4001	Construct manufactured steel structure
ENGR-VERT-4002	Construct wood frame structure
ENGR-VERT-4003	Construct concrete block structure
ENGR-VERT-4004	Construct timber structure
ENGR-VERT-4005	Repair existing structures
ENGR-VERT-4006	Construct Concrete Structure
ENGR-VERT-4007	Construct expedient drainage structure
ENGR-VERT-5001	Conduct vertical construction
HQCO-OPS-4001	Conduct Damage Assessment Team (DAT) activities
HQCO-OPS-4002	Conduct Damage Assessment and Response Team (DART) activities
HQCO-OPS-5001	Conduct Minimum Operating Strip (MOS) selection
HQCO-OPS-6001	Provide Headquarters & Service Company support
HQCO-OPS-6002	Establish Aviation Ground Support Operations Center (AGSOC)
HQCO-OPS-6003	Execute unit embarkation

HQCO-PLAN-6001	Plan Headquarters & Service Company support
HQCO-PLAN-6002	Plan unit embarkation
MTCO-OPS-3002	Conduct ground fueling operations
MTCO-OPS-4001	Conduct convoy operations (L/S)
MTCO-OPS-4002	Conduct Motor Transport operations
MTCO-OPS-5001	Conduct convoy operations (L/S)
MTCO-OPS-5003	Employ Motor Transport Operations Platoon
MTCO-OPS-6001	Provide Motor Transport Company services
MTCO-OPS-6003	Conduct convoy operations (S/L)
MTCO-PLAN-6001	Plan Motor Transport Company services
SQDN-OPS-7001	Command and Control Aviation Ground Support (AGS) (S/L)
SQDN-OPS-7002	Operate Aviation Ground Support Operations Center (AGSOC) (S/L)
SQDN-OPS-7004	Construct expeditionary airfield
SQDN-OPS-7005	Conduct Base Recovery After Attack (BRAAT) operations
SQDN-PLAN-7001	Plan Aviation Ground Support (AGS) operations (S/L)
SQDN-PLAN-7002	Plan FOB operations (S/L)
SQDN-PLAN-7003	Plan Base Recovery After Attack (BRAAT) operations (S/L)
MCT 1.12.2 Support Amphibious Operations	
AOPS-EFR-6001	Plan Expeditionary Fire Fighting and Rescue (EFR) services
ENGR-PLAN-6001	Plan engineer operations (S/L)
HQCO-OPS-6003	Execute unit embarkation
HQCO-PLAN-6002	Plan unit embarkation
SQDN-OPS-7001	Command and Control Aviation Ground Support (AGS) (S/L)
SQDN-PLAN-7001	Plan Aviation Ground Support (AGS) operations (S/L)
SQDN-PLAN-7002	Plan FOB operations (S/L)
MCT 1.12.5.1.1 Provide Airfield Services at Expeditionary Aviation Shore-based Sites	
AOPS-EAF-4001	Provide aircraft arrestment capability
AOPS-EAF-4002	Provide visual landing aids for terminal guidance of aircraft
AOPS-EAF-4003	Provide airfield lighting and marking
AOPS-EAF-4004	Conduct aircraft arrestment operations
AOPS-EAF-4005	Conduct Landing Zone (LZ) site survey
AOPS-EAF-5001	Provide Expeditionary Airfield (EAF) services
AOPS-EAF-6001	Plan Expeditionary Airfield (EAF) services
AOPS-EFR-4001	Conduct structural firefighting operations
AOPS-EFR-4002	Conduct Aircraft Rescue and Fire Fighting (ARFF)
AOPS-EFR-5001	Provide EFR services
AOPS-EFR-5002	Provide initial response to mass casualty
AOPS-EFR-6001	Plan Expeditionary Fire Fighting and Rescue (EFR) services
AOPS-EOD-4001	Provide EOD Support to Base Recovery After Attack (BRAAT)
AOPS-EOD-4002	Conduct exploitation on enemy ordnance or capabilities that impact flight operations
AOPS-EOD-4003	Provide EOD Support to Aircraft Recovery
AOPS-EOD-4004	Conduct full spectrum EOD operations
AOPS-EOD-4005	Conduct download of Aircraft Explosive Hazard (AEH)
AOPS-EOD-4006	Provide response to Forward Arming and Refueling Point (FARP)
AOPS-FUEL-3001	Maintain bulk fuel distribution site
AOPS-FUEL-3002	Conduct aircraft fueling operations
AOPS-FUEL-3003	Conduct mobile fueling operations
AOPS-FUEL-4001	Maintain bulk fuel distribution site
AOPS-FUEL-5001	Conduct Aviation refueling

AOPS-FUEL-5002	Construct bulk fuel site
AOPS-FUEL-5003	Conduct tactical bulk fuel operations
AOPS-OPS-6001	Provide Airfield Operations services
AOPS-PLAN-6001	Plan airfield support services
ENGR-CMOB-3001	Employ explosive obstacles
ENGR-CMOB-3002	Build non-explosive obstacles
ENGR-CMOB-4002	Create a non-explosive obstacle/barriers
ENGR-EQIP-3001	Provide crane support
ENGR-EQIP-3004	Conduct Foreign Object Debris (FOD) Mitigation
ENGR-EQIP-4001	Conduct Material Handling Equipment (MHE) operations
ENGR-EQIP-5001	Provide engineer equipment support
ENGR-HORZ-3001	Conduct dust abatement
ENGR-HORZ-4001	Conduct horizontal construction
ENGR-HORZ-5001	Conduct horizontal construction
ENGR-MANT-4001	Maintain engineer equipment
ENGR-MANT-5001	Maintain engineer equipment
ENGR-MOBL-4001	Conduct route improvement
ENGR-MOBL-4002	Repair runway crater
ENGR-MOBL-4003	Repair spall(s)
ENGR-MOBL-4004	Conduct dismounted route sweep operations (S/L)
ENGR-MOBL-4005	Employ demolitions in support of mobility operations (S/L)
ENGR-MOBL-5001	Conduct Airfield Damage Repair (ADR)
ENGR-MOBL-5002	Construct Landing Zones (LZ)
ENGR-OPS-6001	Provide essential engineering services
ENGR-PLAN-6001	Plan engineer operations (S/L)
ENGR-RECN-3001	Assess damage to airfield surfaces
ENGR-RECN-3002	Assess damage to airfield facilities and structures
ENGR-RECN-3003	Survey site for construction
ENGR-RECN-3004	Conduct obstacle reconnaissance (S/L)
ENGR-RECN-4001	Conduct site survey
ENGR-RECN-4002	Conduct zone reconnaissance (S/L)
ENGR-RECN-4004	Conduct area reconnaissance (S/L)
ENGR-SURV-4001	Harden existing structure
ENGR-SURV-4002	Construct field fortifications
ENGR-SURV-4007	Construct vehicle protective position
ENGR-SURV-5001	Construct survivability positions
ENGR-SURV-5002	Harden existing structure(s)
ENGR-UTIL-4001	Provide electrical power
ENGR-UTIL-4002	Provide potable water
ENGR-UTIL-4003	Provide hygiene support
ENGR-UTIL-5001	Provide utilities support
ENGR-VERT-4001	Construct manufactured steel structure
ENGR-VERT-4002	Construct wood frame structure
ENGR-VERT-4003	Construct concrete block structure
ENGR-VERT-4004	Construct timber structure
ENGR-VERT-4005	Repair existing structures
ENGR-VERT-4006	Construct Concrete Structure
ENGR-VERT-4007	Construct expedient drainage structure
ENGR-VERT-5001	Conduct vertical construction
HQCO-COMM-4001	Establish data network services
HQCO-COMM-5001	Distribute communication services across the MAGTF/MSE
HQCO-COMM-5002	Provide access to DISN services
HQCO-COMM-5003	Establish a communications site

HQCO-DATA-3001	Provide data services
HQCO-DATA-5001	Provide data services
HQCO-MED-3001	Receive Casualties
HQCO-MED-3002	Conduct temporary casualty holding
HQCO-MED-3003	Perform medical care
HQCO-MED-3004	Conduct casualty evacuation
HQCO-MED-3005	Provide Immunizations
HQCO-MED-4001	Coordinate patient movement
HQCO-MED-5001	Provide medical services
HQCO-MED-5002	Perform mass casualty
HQCO-NET-3001	Provide network services
HQCO-NET-3002	Provide long haul cabling transport
HQCO-NET-4001	Provide network services
HQCO-NET-5001	Provide network services
HQCO-OPS-3001	Provide access to DISN services
HQCO-OPS-3002	Establish a communications site
HQCO-OPS-4001	Conduct Damage Assessment Team (DAT) activities
HQCO-OPS-4002	Conduct Damage Assessment and Response Team (DART) activities
HQCO-OPS-4003	Provide access to DISN services
HQCO-OPS-4004	Establish a communications site
HQCO-OPS-5001	Conduct Minimum Operating Strip (MOS) selection
HQCO-OPS-6001	Provide Headquarters & Service Company support
HQCO-OPS-6002	Establish Aviation Ground Support Operations Center (AGSOC)
HQCO-PLAN-6001	Plan Headquarters & Service Company support
MTCO-OPS-3002	Conduct ground fueling operations
MTCO-OPS-4002	Conduct Motor Transport operations
MTCO-OPS-5003	Employ Motor Transport Operations Platoon
MTCO-PLAN-6001	Plan Motor Transport Company services
SQDN-OPS-7001	Command and Control Aviation Ground Support (AGS) (S/L)
SQDN-OPS-7002	Operate Aviation Ground Support Operations Center (AGSOC) (S/L)
SQDN-OPS-7003	Establish Forward Operating Base (FOB) (S/L)
SQDN-OPS-7004	Construct expeditionary airfield
SQDN-OPS-7005	Conduct Base Recovery After Attack (BRAAT) operations
SQDN-OPS-7006	Conduct aircraft recovery operations
SQDN-PLAN-7001	Plan Aviation Ground Support (AGS) operations (S/L)
SQDN-PLAN-7002	Plan FOB operations (S/L)
SQDN-PLAN-7003	Plan Base Recovery After Attack (BRAAT) operations (S/L)
MCT 1.12.5.1.2 Provide Air Base Support Functions at Expeditionary Aviation Shore-based Sites	
AOPS-EFR-4001	Conduct structural firefighting operations
AOPS-EFR-4002	Conduct Aircraft Rescue and Fire Fighting (ARFF)
AOPS-EFR-5001	Provide EFR services
AOPS-EFR-5002	Provide initial response to mass casualty
AOPS-EFR-6001	Plan Expeditionary Fire Fighting and Rescue (EFR) services
AOPS-EOD-4001	Provide EOD Support to Base Recovery After Attack (BRAAT)
AOPS-EOD-4002	Conduct exploitation on enemy ordnance or capabilities that impact flight operations
AOPS-EOD-4004	Conduct full spectrum EOD operations
AOPS-EOD-4005	Conduct download of Aircraft Explosive Hazard (AEH)
AOPS-EOD-4006	Provide response to Forward Arming and Refueling Point (FARP)

AOPS-FUEL-3001	Maintain bulk fuel distribution site
AOPS-FUEL-3003	Conduct mobile fueling operations
AOPS-FUEL-4001	Maintain bulk fuel distribution site
AOPS-FUEL-5001	Conduct Aviation refueling
AOPS-FUEL-5002	Construct bulk fuel site
AOPS-FUEL-5003	Conduct tactical bulk fuel operations
ENGR-CMOB-3001	Employ explosive obstacles
ENGR-CMOB-3002	Build non-explosive obstacles
ENGR-CMOB-4002	Create a non-explosive obstacle/barriers
ENGR-EQIP-3001	Provide crane support
ENGR-EQIP-3002	Provide Material Handling Equipment (MHE) support
ENGR-EQIP-3003	Provide construction equipment support
ENGR-EQIP-4001	Conduct Material Handling Equipment (MHE) operations
ENGR-EQIP-5001	Provide engineer equipment support
ENGR-HORZ-3001	Conduct dust abatement
ENGR-HORZ-4001	Conduct horizontal construction
ENGR-HORZ-5001	Conduct horizontal construction
ENGR-MANT-3001	Maintain engineer equipment
ENGR-MANT-3002	Employ maintenance team
ENGR-MANT-3003	Maintain power distribution system(s)
ENGR-MANT-3004	Maintain water purification equipment
ENGR-MANT-3005	Maintain hygiene equipment
ENGR-MANT-3006	Maintain refrigeration system(s)
ENGR-MANT-3007	Maintain Environmental Control Units (ECU)
ENGR-MANT-4001	Maintain engineer equipment
ENGR-MANT-5001	Maintain engineer equipment
ENGR-MOBL-4001	Conduct route improvement
ENGR-MOBL-4004	Conduct dismounted route sweep operations (S/L)
ENGR-MOBL-4005	Employ demolitions in support of mobility operations (S/L)
ENGR-MOBL-5002	Construct Landing Zones (LZ)
ENGR-OPS-6001	Provide essential engineering services
ENGR-PLAN-6001	Plan engineer operations (S/L)
ENGR-RECN-3003	Survey site for construction
ENGR-RECN-3004	Conduct obstacle reconnaissance (S/L)
ENGR-RECN-3005	Conduct bridge reconnaissance
ENGR-RECN-3006	Conduct road reconnaissance (S/L)
ENGR-RECN-4001	Conduct site survey
ENGR-RECN-4002	Conduct zone reconnaissance (S/L)
ENGR-RECN-4003	Conduct route reconnaissance (S/L)
ENGR-RECN-4004	Conduct area reconnaissance (S/L)
ENGR-SURV-3001	Construct vehicle survivability position
ENGR-SURV-3003	Construct overhead cover
ENGR-SURV-3004	Construct pre-detonation screen
ENGR-SURV-3005	Construct shelters
ENGR-SURV-4001	Harden existing structure
ENGR-SURV-4002	Construct field fortifications
ENGR-SURV-4003	Construct Vehicle Control Point (VCP)
ENGR-SURV-4004	Construct Entry Control Point (ECP)
ENGR-SURV-4005	Construct earth filled barrier/structure
ENGR-SURV-4006	Employ demolitions in support of survivability operations
ENGR-SURV-4007	Construct vehicle protective position
ENGR-SURV-5001	Construct survivability positions
ENGR-SURV-5002	Harden existing structure(s)

ENGR-UTIL-3001	Establish power distribution system
ENGR-UTIL-3002	Provide floodlight support
ENGR-UTIL-3003	Establish power generation site(s)
ENGR-UTIL-3004	Wire a structure for electricity
ENGR-UTIL-3005	Provide Environmental Control Unit (ECU) support
ENGR-UTIL-3006	Provide refrigeration support
ENGR-UTIL-3007	Produce potable water
ENGR-UTIL-3008	Store potable water
ENGR-UTIL-3009	Establish water distribution site
ENGR-UTIL-3010	Provide laundry services
ENGR-UTIL-3011	Provide shower services
ENGR-UTIL-3012	Install plumbing in a structure
ENGR-UTIL-4001	Provide electrical power
ENGR-UTIL-4002	Provide potable water
ENGR-UTIL-4003	Provide hygiene support
ENGR-UTIL-5001	Provide utilities support
ENGR-VERT-3001	Fell standing timber
ENGR-VERT-4001	Construct manufactured steel structure
ENGR-VERT-4002	Construct wood frame structure
ENGR-VERT-4003	Construct concrete block structure
ENGR-VERT-4004	Construct timber structure
ENGR-VERT-4005	Repair existing structures
ENGR-VERT-4006	Construct Concrete Structure
ENGR-VERT-4007	Construct expedient drainage structure
ENGR-VERT-5001	Conduct vertical construction
HQCO-COMM-4001	Establish data network services
HQCO-COMM-5001	Distribute communication services across the MAGTF/MSE
HQCO-COMM-5002	Provide access to DISN services
HQCO-COMM-5003	Establish a communications site
HQCO-DATA-3001	Provide data services
HQCO-DATA-5001	Provide data services
HQCO-FLDM-3001	Provide Expeditionary Food Service Operations
HQCO-GCEM-3001	Provide field level maintenance support for cables
HQCO-GCEM-3002	Provide field level maintenance support for ground radio equipment
HQCO-GCEM-3003	Provide field level maintenance support for telecommunications equipment
HQCO-GCEM-3004	Provide field level maintenance support for IT equipment
HQCO-MED-3001	Receive Casualties
HQCO-MED-3002	Conduct temporary casualty holding
HQCO-MED-3003	Perform medical care
HQCO-MED-3004	Conduct casualty evacuation
HQCO-MED-3005	Provide Immunizations
HQCO-MED-4001	Coordinate patient movement
HQCO-MED-5001	Provide medical services
HQCO-MED-5002	Perform mass casualty
HQCO-NET-3001	Provide network services
HQCO-NET-3002	Provide long haul cabling transport
HQCO-NET-4001	Provide network services
HQCO-NET-5001	Provide network services
HQCO-OPS-3001	Provide access to DISN services
HQCO-OPS-3002	Establish a communications site
HQCO-OPS-4001	Conduct Damage Assessment Team (DAT) activities
HQCO-OPS-4002	Conduct Damage Assessment and Response Team (DART)

	activities
HQCO-OPS-4003	Provide access to DISN services
HQCO-OPS-4004	Establish a communications site
HQCO-OPS-6001	Provide Headquarters & Service Company support
HQCO-OPS-6002	Establish Aviation Ground Support Operations Center (AGSOC)
HQCO-OPS-6003	Execute unit embarkation
HQCO-OPS-6004	Establish Field Mess
HQCO-PLAN-5001	Plan Field Mess
HQCO-PLAN-6001	Plan Headquarters & Service Company support
HQCO-PLAN-6002	Plan unit embarkation
MTCO-LIC-6001	Direct a licensing program
MTCO-MANT-3001	Maintain motor transport equipment
MTCO-MANT-5001	Employ Motor Transport Maintenance Platoon
MTCO-OPS-3001	Conduct recovery operations
MTCO-OPS-3002	Conduct ground fueling operations
MTCO-OPS-4001	Conduct convoy operations (L/S)
MTCO-OPS-4002	Conduct Motor Transport operations
MTCO-OPS-5001	Conduct convoy operations (L/S)
MTCO-OPS-5002	Establish a tactical motor pool
MTCO-OPS-5003	Employ Motor Transport Operations Platoon
MTCO-OPS-6001	Provide Motor Transport Company services
MTCO-OPS-6002	Establish a tactical motor pool
MTCO-OPS-6003	Conduct convoy operations (S/L)
MTCO-PLAN-6001	Plan Motor Transport Company services
SQDN-OPS-7001	Command and Control Aviation Ground Support (AGS) (S/L)
SQDN-OPS-7002	Operate Aviation Ground Support Operations Center (AGSOC) (S/L)
SQDN-OPS-7003	Establish Forward Operating Base (FOB) (S/L)
SQDN-OPS-7005	Conduct Base Recovery After Attack (BRAAT) operations
SQDN-PLAN-7001	Plan Aviation Ground Support (AGS) operations (S/L)
SQDN-PLAN-7002	Plan FOB operations (S/L)
SQDN-PLAN-7003	Plan Base Recovery After Attack (BRAAT) operations (S/L)
MCT 6.1.1.3.4.1 Provide Airfield Security Operations	
AOPS-EOD-4004	Conduct full spectrum EOD operations
ENGR-CMOB-3001	Employ explosive obstacles
ENGR-CMOB-3002	Build non-explosive obstacles
ENGR-CMOB-4001	Create an explosive obstacle
ENGR-CMOB-4002	Create a non-explosive obstacle/barriers
ENGR-CMOB-5001	Create an obstacle group (S/L)
ENGR-CMOB-6001	Conduct Countermobility operations (S/L)
ENGR-DEMO-5001	Conduct demolition operations
ENGR-EQIP-3003	Provide construction equipment support
ENGR-EQIP-4001	Conduct Material Handling Equipment (MHE) operations
ENGR-EQIP-5001	Provide engineer equipment support
ENGR-HORZ-4001	Conduct horizontal construction
ENGR-HORZ-5001	Conduct horizontal construction
ENGR-PLAN-6001	Plan engineer operations (S/L)
ENGR-SURV-3001	Construct vehicle survivability position
ENGR-SURV-3002	Construct fighting position
ENGR-SURV-3003	Construct overhead cover
ENGR-SURV-3004	Construct pre-detonation screen
ENGR-SURV-3005	Construct shelters
ENGR-SURV-3006	Construct vehicle fighting position

ENGR-SURV-4001	Harden existing structure
ENGR-SURV-4002	Construct field fortifications
ENGR-SURV-4003	Construct Vehicle Control Point (VCP)
ENGR-SURV-4004	Construct Entry Control Point (ECP)
ENGR-SURV-4005	Construct earth filled barrier/structure
ENGR-SURV-4006	Employ demolitions in support of survivability operations
ENGR-SURV-4007	Construct vehicle protective position
ENGR-SURV-5001	Construct survivability positions
ENGR-SURV-5002	Harden existing structure(s)
ENGR-UTIL-3002	Provide floodlight support
ENGR-VERT-4004	Construct timber structure
HQCO-OPS-6001	Provide Headquarters & Service Company support
HQCO-OPS-6002	Establish Aviation Ground Support Operations Center (AGSOC)
HQCO-PLAN-6001	Plan Headquarters & Service Company support
MWSS-ASO-3001	Employ a medium machinegun team (S/L)
MWSS-ASO-3002	Employ a heavy machinegun (S/L)
MWSS-ASO-4001	Implement security measures
MWSS-ASO-4002	Employ Force Protection Conditions (FPCON)
MWSS-ASO-4003	Employ security objectives
MWSS-ASO-4004	Employ security principles
MWSS-ASO-4005	Employ security tasks
MWSS-ASO-4006	Employ security and control procedures
MWSS-ASO-5001	Conduct guard force operations
MWSS-ASO-6001	Establish Flight Line Security (FLS)
MWSS-ASO-6002	Command and Control Airfield Security Operations Forces
MWSS-ASO-7001	Plan Airfield Security Operations (ASO)
MWSS-ASO-7002	Train airfield security forces
MWSS-ASO-7003	Conduct Airfield Security Operations (ASO)
SQDN-OPS-7001	Command and Control Aviation Ground Support (AGS) (S/L)
SQDN-OPS-7002	Operate Aviation Ground Support Operations Center (AGSOC) (S/L)

MWSS T&R MANUAL

CHAPTER 3

COLLECTIVE EVENTS

CHAPTER 3

COLLECTIVE EVENTS

3000. PURPOSE. Chapter 3 contains collective training events for the Marine Wing Support Squadron.

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-XXXX. This chapter utilizes the following methodology:

a. Field one. This field represents the community. This chapter contains the following community codes:

Code	Description
AOPS	Airfield Operations Company
ENGR	Engineer Company
HQCO	Headquarters Company
MTCO	Motor Transport Company
MWSS	Marine Wing Support Squadron
SQDN	Squadron

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

Code	Description
ADMN	Administration
AOPS	Airfield Operations
ARFF	Aircraft Rescue and Fire Fighting
ASO	Airfield Security Operations
CMOB	Countermobility
COMM	Communications
DEMO	Demolitions
EAF	Expeditionary Airfield
EFR	Expeditionary Fire Fighting and Rescue
EOD	Explosive Ordnance Disposal
EOPS	Engineer Operations
EQIP	Engineer Equipment Operations
FLDM	Field Mess
FUEL	Bulk Fuel
GCEM	Ground Communication Electronic Maintenance
HORZ	Horizontal Construction
LIC	Licensing
MANT	Maintenance
MED	Medical
MOBL	Mobility
OPS	Operations
PLAN	Planning
RECN	Reconnaissance
SQDN	Squadron

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	Squadron Level
6000	Company Level
5000	Platoon Level
4000	Section Level
3000	Squad/Fire Team Level

3002. INDEX OF COLLECTIVE EVENTS

Event Code	E-Coded	Event
7000 Level Events		
MWSS-ASO-7001	YES	Plan Airfield Security Operations (ASO)
MWSS-ASO-7002	YES	Train airfield security forces
MWSS-ASO-7003	YES	Conduct Airfield Security Operations (ASO)
SQDN-OPS-7001	YES	Command and Control Aviation Ground Support (AGS) (S/L)
SQDN-OPS-7002	YES	Operate Aviation Ground Support Operations Center (AGSOC) (S/L)
SQDN-OPS-7003	YES	Establish Forward Operating Base (FOB) (S/L)
SQDN-OPS-7004	YES	Construct expeditionary airfield
SQDN-OPS-7005	YES	Conduct Base Recovery After Attack (BRAAT) operations
SQDN-OPS-7006	YES	Conduct aircraft recovery operations
SQDN-PLAN-7001	YES	Plan Aviation Ground Support (AGS) operations (S/L)
SQDN-PLAN-7002	YES	Plan FOB operations (S/L)
SQDN-PLAN-7003	YES	Plan Base Recovery After Attack (BRAAT) operations (S/L)
6000 Level Events		
AOPS-EAF-6001	YES	Plan Expeditionary Airfield (EAF) services
AOPS-EFR-6001	YES	Plan Expeditionary Fire Fighting and Rescue (EFR) services
AOPS-OPS-6001	YES	Provide Airfield Operations services
AOPS-PLAN-6001	YES	Plan airfield support services
ENGR-CMOB-6001	YES	Conduct Countermobility operations (S/L)
ENGR-OPS-6001	YES	Provide essential engineering services
ENGR-PLAN-6001	YES	Plan engineer operations (S/L)
HQCO-OPS-6001	YES	Provide Headquarters & Service Company support
HQCO-OPS-6002	YES	Establish Aviation Ground Support Operations Center (AGSOC)
HQCO-OPS-6003	YES	Execute unit embarkation
HQCO-OPS-6004	YES	Establish Field Mess
HQCO-PLAN-6001	YES	Plan Headquarters & Service Company support
HQCO-PLAN-6002	YES	Plan unit embarkation
MTCO-LIC-6001	YES	Direct a licensing program

MTCO-OPS-6001	YES	Provide Motor Transport Company services
MTCO-OPS-6002	YES	Establish a tactical motor pool
MTCO-OPS-6003	YES	Conduct convoy operations (S/L)
MTCO-PLAN-6001	YES	Plan Motor Transport Company services
MWSS-ASO-6001	YES	Establish Flight Line Security (FLS)
MWSS-ASO-6002	YES	Command and Control Airfield Security Operations Forces
5000 Level Events		
AOPS-EAF-5001	YES	Provide Expeditionary Airfield (EAF) services
AOPS-EFR-5001	YES	Provide EFR services
AOPS-EFR-5002	YES	Provide initial response to mass casualty
AOPS-FUEL-5001	YES	Conduct Aviation refueling
AOPS-FUEL-5002	YES	Construct bulk fuel site
AOPS-FUEL-5003	NO	Conduct tactical bulk fuel operations
ENGR-CMOB-5001	YES	Create an obstacle group (S/L)
ENGR-DEMO-5001	YES	Conduct demolition operations
ENGR-EQIP-5001	NO	Provide engineer equipment support
ENGR-HORZ-5001	NO	Conduct horizontal construction
ENGR-MANT-5001	NO	Maintain engineer equipment
ENGR-MOBL-5001	YES	Conduct Airfield Damage Repair (ADR)
ENGR-MOBL-5002	NO	Construct Landing Zones (LZ)
ENGR-MOBL-5003	NO	Conduct area clearance operations
ENGR-RECN-5001	YES	Conduct engineer reconnaissance (S/L)
ENGR-SURV-5001	YES	Construct survivability positions
ENGR-SURV-5002	YES	Harden existing structure(s)
ENGR-UTIL-5001	NO	Provide utilities support
ENGR-VERT-5001	NO	Conduct vertical construction
HQCO-COMM-5001	YES	Distribute communication services across the MAGTF/MSE
HQCO-COMM-5002	YES	Provide access to DISN services
HQCO-COMM-5003	YES	Establish a communications site
HQCO-DATA-5001	NO	Provide data services
HQCO-MED-5001	YES	Provide medical services
HQCO-MED-5002	YES	Perform mass casualty
HQCO-NET-5001	NO	Provide network services
HQCO-OPS-5001	YES	Conduct Minimum Operating Strip (MOS) selection
HQCO-PLAN-5001	YES	Plan Field Mess
MTCO-MANT-5001	NO	Employ Motor Transport Maintenance Platoon
MTCO-OPS-5001	NO	Conduct convoy operations (L/S)
MTCO-OPS-5002	NO	Establish a tactical motor pool
MTCO-OPS-5003	NO	Employ Motor Transport Operations Platoon
MWSS-ASO-5001	YES	Conduct guard force operations
4000 Level Events		
AOPS-EAF-4001	NO	Provide aircraft arrestment capability
AOPS-EAF-4002	NO	Provide visual landing aids for terminal guidance of aircraft
AOPS-EAF-4003	NO	Provide airfield lighting and marking
AOPS-EAF-4004	NO	Conduct aircraft arrestment operations
AOPS-EAF-4005	NO	Conduct Landing Zone (LZ) site survey
AOPS-EFR-4001	NO	Conduct structural firefighting operations
AOPS-EFR-4002	NO	Conduct Aircraft Rescue and Fire Fighting (ARFF)
AOPS-EOD-4001	NO	Provide EOD Support to Base Recovery After Attack (BRAAT)
AOPS-EOD-4002	NO	Conduct exploitation on enemy ordnance or

		capabilities that impact flight operations
AOPS-EOD-4003	NO	Provide EOD Support to Aircraft Recovery
AOPS-EOD-4004	YES	Conduct full spectrum EOD operations
AOPS-EOD-4005	NO	Conduct download of Aircraft Explosive Hazard (AEH)
AOPS-EOD-4006	NO	Provide response to Forward Arming and Refueling Point (FARP)
AOPS-FUEL-4001	NO	Maintain bulk fuel distribution site
ENGR-CMOB-4001	NO	Create an explosive obstacle
ENGR-CMOB-4002	NO	Create a non-explosive obstacle/barriers
ENGR-EQIP-4001	NO	Conduct Material Handling Equipment (MHE) operations
ENGR-HORZ-4001	NO	Conduct horizontal construction
ENGR-MANT-4001	NO	Maintain engineer equipment
ENGR-MOBL-4001	NO	Conduct route improvement
ENGR-MOBL-4002	NO	Repair runway crater
ENGR-MOBL-4003	NO	Repair spall(s)
ENGR-MOBL-4004	NO	Conduct dismounted route sweep operations (S/L)
ENGR-MOBL-4005	NO	Employ demolitions in support of mobility operations (S/L)
ENGR-RECN-4001	NO	Conduct site survey
ENGR-RECN-4002	NO	Conduct zone reconnaissance (S/L)
ENGR-RECN-4003	NO	Conduct route reconnaissance (S/L)
ENGR-RECN-4004	NO	Conduct area reconnaissance (S/L)
ENGR-SURV-4001	NO	Harden existing structure
ENGR-SURV-4002	NO	Construct field fortifications
ENGR-SURV-4003	NO	Construct Vehicle Control Point (VCP)
ENGR-SURV-4004	NO	Construct Entry Control Point (ECP)
ENGR-SURV-4005	NO	Construct earth filled barrier/structure
ENGR-SURV-4006	NO	Employ demolitions in support of survivability operations
ENGR-SURV-4007	NO	Construct vehicle protective position
ENGR-UTIL-4001	NO	Provide electrical power
ENGR-UTIL-4002	NO	Provide potable water
ENGR-UTIL-4003	NO	Provide hygiene support
ENGR-VERT-4001	NO	Construct manufactured steel structure
ENGR-VERT-4002	NO	Construct wood frame structure
ENGR-VERT-4003	NO	Construct concrete block structure
ENGR-VERT-4004	NO	Construct timber structure
ENGR-VERT-4005	NO	Repair existing structures
ENGR-VERT-4006	NO	Construct Concrete Structure
ENGR-VERT-4007	NO	Construct expedient drainage structure
HQCO-COMM-4001	NO	Establish data network services
HQCO-MED-4001	NO	Coordinate patient movement
HQCO-NET-4001	NO	Provide network services
HQCO-OPS-4001	NO	Conduct Damage Assessment Team (DAT) activities
HQCO-OPS-4002	YES	Conduct Damage Assessment and Response Team (DART) activities
HQCO-OPS-4003	YES	Provide access to DISN services
HQCO-OPS-4004	YES	Establish a communications site
MTCO-OPS-4001	NO	Conduct convoy operations (L/S)
MTCO-OPS-4002	NO	Conduct Motor Transport operations
MWSS-ASO-4001	NO	Implement security measures
MWSS-ASO-4002	NO	Employ Force Protection Conditions (FPCON)

MWSS-ASO-4003	NO	Employ security objectives
MWSS-ASO-4004	NO	Employ security principles
MWSS-ASO-4005	NO	Employ security tasks
MWSS-ASO-4006	NO	Employ security and control procedures
3000 Level Events		
AOPS-FUEL-3001	NO	Maintain bulk fuel distribution site
AOPS-FUEL-3002	NO	Conduct aircraft fueling operations
AOPS-FUEL-3003	NO	Conduct mobile fueling operations
ENGR-CMOB-3001	NO	Employ explosive obstacles
ENGR-CMOB-3002	NO	Build non-explosive obstacles
ENGR-EQIP-3001	NO	Provide crane support
ENGR-EQIP-3002	NO	Provide Material Handling Equipment (MHE) support
ENGR-EQIP-3003	NO	Provide construction equipment support
ENGR-EQIP-3004	NO	Conduct Foreign Object Debris (FOD) Mitigation
ENGR-HORZ-3001	NO	Conduct dust abatement
ENGR-MANT-3001	NO	Maintain engineer equipment
ENGR-MANT-3002	NO	Employ maintenance team
ENGR-MANT-3003	NO	Maintain power distribution system(s)
ENGR-RECN-3001	NO	Assess damage to airfield surfaces
ENGR-RECN-3002	NO	Assess damage to airfield facilities and structures
ENGR-RECN-3003	NO	Survey site for construction
ENGR-RECN-3004	NO	Conduct obstacle reconnaissance (S/L)
ENGR-RECN-3005	NO	Conduct bridge reconnaissance
ENGR-RECN-3006	NO	Conduct road reconnaissance (S/L)
ENGR-SURV-3001	NO	Construct vehicle survivability position
ENGR-SURV-3002	NO	Construct fighting position
ENGR-SURV-3003	NO	Construct overhead cover
ENGR-SURV-3004	NO	Construct pre-detonation screen
ENGR-SURV-3005	NO	Construct shelters
ENGR-SURV-3006	NO	Construct vehicle fighting position
ENGR-VERT-3001	NO	Fell standing timber
HQCO-DATA-3001	NO	Provide data services
HQCO-FLDM-3001	NO	Provide Expeditionary Food Service Operations
HQCO-GCEM-3001	NO	Provide field level maintenance support for cables
HQCO-GCEM-3002	NO	Provide field level maintenance support for ground radio equipment
HQCO-GCEM-3003	NO	Provide field level maintenance support for telecommunications equipment
HQCO-GCEM-3004	NO	Provide field level maintenance support for IT equipment
HQCO-MED-3001	NO	Receive Casualties
HQCO-MED-3002	NO	Conduct temporary casualty holding
HQCO-MED-3003	NO	Perform medical care
HQCO-MED-3004	NO	Conduct casualty evacuation
HQCO-MED-3005	NO	Provide Immunizations
HQCO-NET-3001	NO	Provide network services
HQCO-NET-3002	NO	Provide long haul cabling transport
HQCO-OPS-3001	YES	Provide access to DISN services
HQCO-OPS-3002	YES	Establish a communications site
MTCO-MANT-3001	NO	Maintain motor transport equipment
MTCO-OPS-3001	NO	Conduct recovery operations
MTCO-OPS-3002	NO	Conduct ground fueling operations
MWSS-ASO-3001	NO	Employ a medium machinegun team (S/L)

MWSS-ASO-3002	NO	Employ a heavy machinegun (S/L)

3003. 7000-LEVEL EVENTS

Event Code	E-Coded	Event	Page
7000 Level Events			
MWSS-ASO-7001	YES	Plan Airfield Security Operations (ASO)	3-7
MWSS-ASO-7002	YES	Train airfield security forces	3-8
MWSS-ASO-7003	YES	Conduct Airfield Security Operations (ASO)	3-9
SQDN-OPS-7001	YES	Command and Control Aviation Ground Support (AGS) (S/L)	3-11
SQDN-OPS-7002	YES	Operate Aviation Ground Support Operations Center (AGSOC) (S/L)	3-12
SQDN-OPS-7003	YES	Establish Forward Operating Base (FOB) (S/L)	3-13
SQDN-OPS-7004	YES	Construct expeditionary airfield	3-14
SQDN-OPS-7005	YES	Conduct Base Recovery After Attack (BRAAT) operations	3-16
SQDN-OPS-7006	YES	Conduct aircraft recovery operations	3-18
SQDN-PLAN-7001	YES	Plan Aviation Ground Support (AGS) operations (S/L)	3-20
SQDN-PLAN-7002	YES	Plan FOB operations (S/L)	3-21
SQDN-PLAN-7003	YES	Plan Base Recovery After Attack (BRAAT) operations (S/L)	3-22

MWSS-ASO-7001: Plan Airfield Security Operations (ASO)

SUPPORTED MET(S): MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: The MWSS's primary force protection mission is Airfield Security Operations (ASO), consisting of security for a flight line and two air points. The Aviation Combat Element (ACE) or site commander is assigned the responsibility of providing the security measures for the air base from which the ACE is operating which consists of airbase ground security operations. Airfield Security Operations resides under airbase ground security operations. The MWSS plans coordinates and supervises flight line security operations for the ACE or site commander; to include ensuring active and passive security measures can be implemented in a timely manner. Although the MWSS may develop the flight line security plan, the ACE or site commander is the approving authority for the plan. The flight line security planners should anticipate the likely enemy action based on current threat assessments and build the security measures appropriately. The ultimate goal is to protect the ACE assets at the FOB and allow for uninterrupted sortie generation. Augmentation for ASO may be required to maintain an effective security posture; identified augmentation requirements will be coordinated through higher and the Base Defense Operations Center (BDOC). MCTP 3-20B Aviation Ground Support, Appendix C contains an airfield security planning checklist to assist in developing the plan.

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

STANDARD: To provide airfield security within the designed criteria and commander's intent.

EVENT COMPONENTS:
1. Review the order.
2. Integrate ASO into airbase ground security operations planning.
3. Incorporate higher intelligence preparation.
4. Apply fundamentals of rear area security.
5. Plan threat level response.
6. Determine security objectives.
7. Apply security principles.
8. Apply security tasks.
9. Plan for security and control procedures.
10. Coordinate with BDOC.
11. Determine appropriate security force for the security operations.
12. Determine airfield security augmentation requirements.
13. Brief the plan.

REFERENCES:
1. JP 3-10 Joint Security Operations in Theater
2. MCRP 3-40D.13 Base Camps
3. MCTP 3-20B Aviation Ground Support
4. MCTP 3-30C Rear Area Operations
5. MCTP 3-34B Combined Arms Countermobility Operations
6. MCTP 3-34C Survivability Operations

CHAINED EVENTS:

INTERNAL SUPPORTING EVENTS:
HQCO-PLAN-6001 MWSS-ASO-6001 MWSS-ASO-6002

MWSS-ASO-7002: Train airfield security forces

SUPPORTED MET(S): MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: The MWSS's primary force protection mission is Airfield Security Operations (ASO), consisting of a flight line and two air points. ASO are active and passive force protection measures to prevent ground threats and other hazards from impacting aviation operations at air bases, air facilities, air sites and air points. An MWSS is capable of providing simultaneous AGS and ASO provided it has tenant unit augmentation for Flight Line Security (FLS). MWSS has resident expertise to train and task organize MWSS and augment airfield security personnel in order to effectively conduct airfield security operations.

CONDITION: Given a requirement, identified security force, equipment, and references.

STANDARD: To provide a security force capable of preventing ground threats and other hazards from impacting aviation operations.

EVENT COMPONENTS:
1. Determine airfield security requirements.
2. Identify training requirements.
3. Establish training standards for security forces.
4. Establish a training cadre.
5. Develop training plan.
6. Develop course materials and assign instructors.
7. Identify equipment requirements and resource shortfalls.
8. Train command and control functions.
9. Implement training plan.
10. Conduct rehearsals.
11. Develop a systematic plan for improving capabilities.
12. Employ guard force.

REFERENCES:
1. JP 3-10 Joint Security Operations in Theater
2. JP 3-10.1 Joint Tactics, Techniques, and Procedures (JTTP) for Base Defense
3. MCTP 3-20B Aviation Ground Support
4. MCTP 3-34B Combined Arms Countermobility Operations
5. MCTP 3-34C Survivability Operations
6. MCWP 3-41.1 Rear Area Operations

CHAINED EVENTS:

INTERNAL SUPPORTING EVENTS:
MWSS-ASO-6001 MWSS-ASO-6002

MWSS-ASO-7003: Conduct Airfield Security Operations (ASO)

SUPPORTED MET(S): MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: Organization of ASO should be incorporated into the fundamentals of Joint Rear Area security and MAGTF Rear Area Security. The ACE should have sufficient ground defense to provide the appropriate response to threat Levels I and the ability to contain Level II threat until response forces arrive. ASO forces should include standing, mobile, and response forces to ensure round-the-clock force protection and unimpeded aviation operations. The organization of ASO should be proportional to the threat while limiting the impact on the ACEs ability to provide the six functions of Marine aviation to support the MAGTF. The MWSS's primary force protection mission is Airfield Security Operations (ASO), consisting of a flight line and two air points. ASO are active and passive force protection measures to prevent ground threats and other hazards from impacting aviation operations at air bases, air facilities, air sites and air points.

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

STANDARD: To provide airfield area security within the designed criteria.

EVENT COMPONENTS:
1. Review the order.
2. Maintain liaison with the BDOC.
3. Coordinate command and control.
4. Provide communications.
5. Maintain communications.
6. Employ the fundamentals of area security.
7. Conduct intelligence preparation of airfield area of operations.
8. Employ appropriate security force for security operations, based on the threat level.

REFERENCES:
1. JP 3-10 Joint Security Operations in Theater
2. JP 3-10.1 Joint Tactics, Techniques, and Procedures (JTTP) for Base Defense
3. MCTP 3-20B Aviation Ground Support
4. MCTP 3-30C Rear Area Operations

CHAINED EVENTS:

INTERNAL SUPPORTING EVENTS:

ENGR-CMOB-6001	MWSS-ASO-6001	MWSS-ASO-6002

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17330 Covered Training Area
Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Equipment and weapons used by the MWSS security personnel, i.e. engineer, motor transportation, communication, Explosive Ordnance Disposal (EOD), and C4I Assets and equipment.

SQDN-OPS-7001: Command and Control Aviation Ground Support (AGS) (S/L)

SUPPORTED MET(S):

MCT 1.12.2	MCT 1.12.5.1.1	MCT 1.12.5.1.2
MCT 1.4.1.5	MCT 6.1.1.3.4.1	

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

READINESS-CODED: NO

DESCRIPTION: Exercise authority and direction over assigned forces in the planning, execution, support, and accomplishment of a mission.

CONDITION: Provided with ACE mission requirements, organic equipment, and personnel.

STANDARD: That meets established criteria and mission requirements in support of up to one Forward Operating Base (FOB) and two Forward Arming and Refueling Points (FARP).

EVENT COMPONENTS:
1. Establish Aviation Ground Support Operations Center (AGSOC) and communications with higher, adjacent, supported and subordinate units.
2. Command assigned units.
3. Maintain the MWSS Common Operational Picture (COP).
4. Direct MWSS operations and initiate appropriate actions.
5. Coordinate MWSS operations and initiate appropriate actions.
6. Track information requirements, as required.
7. Maintain status of available resources.
8. Integrate reconnaissance products with intelligence effort.
9. Make recommendations to ACE commander on the employment of assigned forces.

REFERENCES:
1. MCTP 3-20B Aviation Ground Support
2. MCWP 3-30 Marine Air-Ground Task Force Command and Control
3. MCWP 5-10 Marine Corps Planning Process

CHAINED EVENTS:

INTERNAL SUPPORTING EVENTS:

AOPS-EFR-5002	AOPS-OPS-6001	ENGR-CMOB-6001
ENGR-OPS-6001	HQCO-MED-5002	HQCO-OPS-6001
HQCO-OPS-6002	HQCO-OPS-6003	HQCO-OPS-6004
MTCO-OPS-6001	MWSS-ASO-6001	

SUPPORT REQUIREMENTS:

SIMULATION EVALUATION:

SIMULATED	SUITABILITY	SIMULATOR	UNIT OF MEASURE	HOURS	PM
Yes	S/L	MTWS	Unit Hours	80	Y

SQDN-OPS-7002: Operate Aviation Ground Support Operations Center (AGSOC) (S/L)

SUPPORTED MET(S):

MCT 1.12.5.1.1	MCT 1.12.5.1.2	MCT 1.4.1.5
MCT 6.1.1.3.4.1		

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

READINESS-CODED: NO

DESCRIPTION: The AGSOC is the nucleus for the coordination and execution of AGS services and functions. From the AGSOC, the MWSS commander exercises command and control of MWSS companies and manages squadron activities. The squadron S-3 runs the AGSOC, which includes representation from the other squadron's staff and operational sections (i.e., S-1, S-2, S-4, S-6, airfield operations, engineer operations, and MT operations). The S-3 must have the capability to receive, prioritize, task, and track AGS activities. To respond to changes in operations, tempo, and environment, the AGSOC must be flexible. The AGSOC processes AGS requests from customers and tasks subordinate elements to respond. It manages the AGS effort and provides the center of control for other activities important to operations.

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

STANDARD: To plan, monitor, and direct AGS operations and establish and maintain communications with higher, adjacent, and subordinate units.

EVENT COMPONENTS:
1. Provide administrative support actions through the S-1.
2. Provide intelligence operations through the S-2.
3. Provide logistic support operations through the S-4.
4. Establish and maintain communication and information systems support through the S-6.
5. Coordinate airfield operations.
6. Coordinate Airfield Security Operations (ASO).
7. Coordinate Base Recovery After Attack (BRAAT) operations.
8. Coordinate Airfield Damage Repair (ADR) operations.
9. Coordinate Forward Arming and Refueling Point (FARP) operation
10. Coordinate Explosive Ordnance Disposal (EOD) operations.
11. Coordinate aircraft salvage and recovery operations.
12. Coordinate base camp construction and repair.
13. Coordinate base camp services for the ACE.

REFERENCES: MCTP 3-20B Aviation Ground Support

CHAINED EVENTS:

INTERNAL SUPPORTING EVENTS:

AOPS-OPS-6001	ENGR-CMOB-6001	ENGR-OPS-6001
HQCO-OPS-6001	HQCO-OPS-6002	HQCO-OPS-6003
HQCO-OPS-6004	MTCO-OPS-6001	MWSS-ASO-6001

SUPPORT REQUIREMENTS:

SIMULATION EVALUATION:

SIMULATED	SUITABILITY	SIMULATOR	UNIT OF MEASURE	HOURS	PM
Yes	S/L	MTWS	Unit Hours	80	Y

SQDN-OPS-7003: Establish Forward Operating Base (FOB) (S/L)

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: Establishment of a FOB ashore significantly improves the ACE's operational reach and responsiveness. FOBs are classified in relation to their size, location and characteristics in the form of airfield services, logistical supportability and maintenance capability. Main air base, air facility, air site, and air point are the four FOB classifications from which the ACE will operate. Priority of establishing a FOB should be from existing HN/friendly infrastructure, captured or abandoned enemy facilities, or if required, the MWSS can employ organic personnel and equipment to establish a FOB in order to meet ACE operational requirements.

CONDITION: Provided with ACE mission requirements, organic equipment, personnel, and an Air Base Master Plan.

STANDARD: Capable of providing the 11 functions of aviation ground support at a designated location.

EVENT COMPONENTS:
1. Coordinate with supported and tenant units operating from the FOB.
2. Provide internal airfield communication.
3. Provide Expeditionary Airfield (EAF) services.
4. Provide Expeditionary Firefighting (EFR) services.
5. Provide aircraft and ground refueling.
6. Provide Explosive Ordnance Disposal (EOD).
7. Provide essential engineer services.
8. Provide motor transport.
9. Provide field messing.
10. Provide health services.
11. Provide air base commandant functions.
12. Provide Airfield Security Operations (ASO).

REFERENCES:
1. MCTP 3-20B Aviation Ground Support
2. MCWP 5-10 Marine Corps Planning Process
3. NAVAIR 00-80R-14 NATOPS U.S. Navy Aircraft Emergency Rescue Information
4. NAVAIR 00-80R-20 NATOPS U.S. Navy Aircraft Crash & Salvage Operations Manual (Ashore)
5. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
6. NAVAIRINST 13800.12B Certification of Expeditionary Airfield AM-2 Mat Installations, Aircraft Recovery Equipment, Visual/Optical Landing Aids, and Marking/Lighting Systems
7. NAVAIRINST 13800.13B Certification of Shore-Based Aircraft Recovery Equipment and Visual/
Optical Landing Aids Systems

CHAINED EVENTS:

INTERNAL SUPPORTING EVENTS:

AOPS-EAF-6001	AOPS-EFR-6001	AOPS-OPS-6001
AOPS-PLAN-6001	ENGR-CMOB-6001	ENGR-OPS-6001
ENGR-PLAN-6001	HQCO-OPS-6001	HQCO-OPS-6002

HQCO-OPS-6003	HQCO-OPS-6004	HQCO-PLAN-6001
MTCO-OPS-6001	MTCO-PLAN-6001	MWSS-ASO-6001

SUPPORT REQUIREMENTS:

SIMULATION EVALUATION:

SIMULATED	SUITABILITY	SIMULATOR	UNIT OF MEASURE	HOURS	PM
Yes	S/L	MTWS	Unit Hours	80	Y

SQDN-OPS-7004: Construct expeditionary airfield

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: An Expeditionary Airfield (EAF) is a shore-based aviation support system that permits landing force aircraft to operate from FOBs within effective range of ground forces. EAF is a construction concept used to develop or enhance FOBs and should not be confused with a concept of employment for Marine aviation. Although a FOB may be a simple grass landing zone (LZ) supporting helicopter operations, the installation and use of one or more EAF subsystems (e.g. Fresnel Lens Optical Landing System, airfield lighting) will add versatility and durability to the site selected. Prior to selecting a FOB site, Aviation Combat Element (ACE) and Aviation Ground Support (AGS) planners should consider the availability and use of host nation (HN) airfields, abandoned or captured airfields, highways, and parking lots before constructing an expeditionary airfield with EAF equipment. EAF equipment is designed to provide the MAGTF commander with maximum flexibility and ability to plan, deploy, and operate. The EAF capability is essential in supporting expeditionary airfield installation and operations; expeditionary airfield site survey tasks; survey and airfield construction. EAF personnel and equipment require Naval Air Systems Command (NAVAIR) compliance, Marine Corps forces certification, naval funding, and Naval Aviation Maintenance Program adherence.

CONDITION: Provided with ACE mission requirements, task organized personnel, equipment and references.

STANDARD: In accordance with NAVAIR design specifications and certification.

EVENT COMPONENTS:
1. Select the airfield location.
2. Conduct a reconnaissance of the chosen location.
3. Determine the design, aircraft and associated gross weight.
4. Determine the in-place soil strength.
5. Determine the runway length and width.
6. Determine the required number of passes (service life).
7. Calculate the approach zones.

8. Determine the runway orientation based on the wind rose.
9. Determine centerline.
10. Design the vertical alignment.
11. Plot the newly designed airfield on the plan and profile.
12. Design transverse slopes.
13. Design taxiways and aprons.
14. Design required drainage structures.
15. Select visual and nonvisual aids to navigation.
16. Design logistical support facilities.
17. Design aircraft protection facilities.
18. Provide aircraft arrestment capability, as required.
19. Provide visual landing aids for terminal guidance of aircraft, as required.
20. Provide airfield lighting/marking, as required.
21. Establish aircraft refueling site.
22. Design aircraft protection facilities.
23. Conduct vertical construction.
24. Establish electrical infrastructure.
25. Establish communications network.
26. Certify EAF systems.

REFERENCES:

1. MCRP 3-40D.2 Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Airfield and Heliport Design
2. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
3. NAVAIR 00-80T-115 Expeditionary Airfield NATOPS Manual
4. NAVAIR 51-40ABA-14 Portable Shore Based Fresnel Lens OLS MK 8 MOD 0 & MOD 1
5. NAVAIR 51-40ABA-7 Lighting & Marking for EAF
6. NAVAIR 51-50ABA-16(_) Minimum Operating Strip Lighting System (MOSLS)
7. NAVAIR 51-5FAA-1(_) M31 Marine Corps Expeditionary Arresting Gear System
8. NAVAIRINST 13800.12B Certification of Expeditionary Airfield AM-2 Mat Installations, Aircraft Recovery Equipment, Visual/Optical Landing Aids, and Marking/Lighting Systems
9. NAVAIRINST 13800.13B Certification of Shore-Based Aircraft Recovery Equipment and Visual/
   Optical Landing Aids Systems
10. UFC 3-260-01 Unified Facilities Criteria - Airfield and Heliport Planning and Design

CHAINED EVENTS:

INTERNAL SUPPORTING EVENTS:

AOPS-EAF-6001	ENGR-OPS-6001	ENGR-PLAN-6001
HQCO-OPS-6001	MTCO-OPS-6001	

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

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

EQUIPMENT: Material Handling Equipment, combat engineer equipment, construction equipment, motor transport and communication assets.

UNITS/PERSONNEL: Officer in Charge, Range Safety Officer, corpsman, engineer equipment operators, motor transport operators and communicators

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SQDN-OPS-7005: Conduct Base Recovery After Attack (BRAAT) operations

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: BRAAT activities center on restoring an installation's mission capabilities after an enemy attack. The Aviation Combat Element (ACE) must repair damage quickly to be capable of supporting aircraft launch and recovery operations.

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

STANDARD: To restore the mission capability of the air base.

EVENT COMPONENTS:
1. Execute command and control of BRAAT operations.
2. Restore essential communications.
3. Conduct damage assessment of the airfield and facilities.
4. Conduct Explosive Ordnance Disposal (EOD) actions.
5. Conduct Minimum Operating Strip (MOS) selection.
6. Conduct Airfield Damage Repair (ADR).
7. Employ aircraft arresting gear systems.
8. Provide MOS marking and lighting.
9. Restore airfield lighting.
10. Support Chemical Biological Radiological Nuclear (CBRN operations), as required.
11. Conduct mass casualty operations.
12. Provide health services.
13. Isolate damaged utilities.
14. Provide emergency utilities.
15. Conduct firefighting operations.
16. Conduct debris cleanup.

REFERENCES:
1. MCTP 3-20B Aviation Ground Support
2. Unit SOP Unit's Standing Operating Procedures

CHAINED EVENTS:

INTERNAL SUPPORTING EVENTS:

AOPS-EFR-5001	AOPS-EFR-5002	ENGR-OPS-6001
ENGR-PLAN-6001	HQCO-MED-5001	HQCO-MED-5002
HQCO-OPS-6001	MTCO-OPS-6001	MWSS-ASO-6001
MWSS-ASO-6002		

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17330 Covered 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:
Equipment used in support of MWSS personnel, e.g.
- Expeditionary Airfield (EAF)
- Expeditionary Fire-fighting (EFR)
- Engineers
- Motor transport
- Communications
- Explosive Ordnance Disposal (EOD)
- Food services
- Health services
- C4I Assets

UNITS/PERSONNEL:
Personnel in support of the MWSS, e.g.
- Aviation Ground Support Weapons and Tactics Instructor (AGS WTI)
- Expeditionary Airfield (EAF)
- Expeditionary Fire Fighting and Rescue (EFR)
- Engineers
- Motor transport
- Communications
- Explosive Ordnance Disposal (EOD)
- Food services
- Health services

MISCELLANEOUS:

SPECIAL PERSONNEL CERTS: Any and all required certifications and or licenses necessary to perform, conduct, or validate the event.

SQDN-OPS-7006: Conduct aircraft recovery operations

SUPPORTED MET(S): MCT 1.12.5.1.1

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

READINESS-CODED: NO

DESCRIPTION: This event encompasses measures taken to recover aircraft that are incapable of flying due to crash or mechanical failure. Recovery of aircraft can be required in garrison or deployed. Personnel involved in recovery efforts must be familiar with established procedures and adequately equipped for safe operations in the given environment. Pre-mishap plans will ensure all personnel involved are familiar with each T/M/S and their respective hazards. If recovery operations include the recovery of victim remains, proper care and handling of remains must be coordinated with mortuary affairs. Every effort must be taken to document the incident site and preserve potential evidence for mishap investigators. MWSS recovery and convoy personnel should include MT, engineers, communications, EFR, and EOD. Coordination with aircraft owning unit required. Aircraft recovery must be conducted in accordance with NATOPS.

CONDITION: Given a mission requirement, mishap plan, recovery plan, pertinent essential aircraft information, commander's intent, personnel, equipment and tools and the references.

STANDARD: To ensure aircraft and associated equipment is accounted for and recovered as required.

EVENT COMPONENTS:

1. Review pre-mishap plan.
2. Review the mission.
3. Task organize.
4. Review pertinent essential aircraft information.
5. Conduct liaison with internal/external units.
6. Coordinate LZ/route clearance and coverage techniques.
7. Conduct supporting unit planning/coordination.
8. Employ internal/external communications.
9. Employ convoy security.
10. Execute movement to mishap site.
11. Deploy security force at mishap site.
12. Employ MWSS personnel and equipment, as required.
13. Apply general safety considerations.
14. Review mishap plan for recovery operations, if required.
15. Develop recovery plan, if applicable.
16. Brief recovery plan to key personnel, if applicable.
17. Conduct recovery using appropriate method, if applicable.
18. Egress from mishap site with all required resources.
19. Send and receive required reports to required personnel.
20. Conduct debrief.

REFERENCES:

1. MCRP 3-40F.7 Multi-Service Tactics, Techniques, and Procedures for Tactical Convoy Operations (TCO)
2. MCRP 4-11.3F Convoy Operations Handbook
3. MCTP 3-20B Aviation Ground Support
4. MCTP 3-40F Transportation Operations
5. MCWP 3-34 Engineering Operations
6. NAVAIR 00-80R-14 NATOPS U.S. Navy Aircraft Emergency Rescue Information
7. NAVAIR 00-80R-14-1 NATOPS U.S. Navy Aircraft Emergency Rescue Information Manual
8. NAVAIR 00-80R-20 NATOPS U.S. Navy Aircraft Crash & Salvage Operations Manual (Ashore)
9. TM 11240-15/B Principal Technical Characteristics of U.S. Marine Corps Motor Transportation Equipment

CHAINED EVENTS:

INTERNAL SUPPORTING EVENTS:

AOPS-EFR-6001	ENGR-OPS-6001	HQCO-OPS-6001
HQCO-OPS-6002	MTCO-OPS-6001	

SUPPORT REQUIREMENTS:

EQUIPMENT:
Equipment used in support of MWSS personnel, i.e.
- Expeditionary Airfield (EAF)
- Expeditionary Fire-fighting (EFR)
- Engineers - Motor transport
- Communications
- Explosive Ordnance Disposal (EOD)
- Health services - C4I Assets - Weapons

UNITS/PERSONNEL:
Personnel in support of the MWSS, i.e.
- Aviation Ground Support Weapons and Tactics Instructor (AGS WTI)
- Expeditionary Airfield (EAF)
- Expeditionary Fire Fighting and Rescue (EFR)
- Engineers - Motor transport - Communications
- Explosive Ordnance Disposal (EOD)
- Health services - Security personnel

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Unit and local SOPs may provide further guidance on event requirements.

SPECIAL PERSONNEL CERTS: Any and all required certifications and or licenses necessary to perform, conduct, or validate the event.

SQDN-PLAN-7001: Plan Aviation Ground Support (AGS) operations (S/L)

SUPPORTED MET(S):

MCT 1.12.2	MCT 1.12.5.1.1	MCT 1.12.5.1.2
MCT 1.4.1.5		

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

READINESS-CODED: NO

DESCRIPTION: Conduct planning with focus on airfield and air base support functions. The functions are those activities and tasks necessary to establish and operate the flight line at a FOB. Main air base, air facility, air site, and air point are the four FOB classifications from which the ACE will operate. The four airfield support functions are: Expeditionary Airfield (EAF) services, Expeditionary Fire Fighting and Rescue (EFR) services, aviation and ground refueling and Explosive Ordnance Disposal (EOD). Planning should also focus on the air base support functions. The air base support functions include: Air base commandant functions, internal airfield communications, essential engineer services, transportation services, field messing facilities, health services, and Airfield Security Operations (ASO).

CONDITION: Given a mission, organic personnel, and equipment.

STANDARD: Using the Marine Corps Planning Process to employ the 11 functions of AGS.

EVENT COMPONENTS:

1. Analyze the mission and available information to identify inherent Aviation Combat Element (ACE) and AGS requirements.
2. Review the ACE G/S-2 intelligence estimate to gather all available intelligence on the enemy and information on the area.
3. Coordinate logistics with ACE planners.
4. Develop, in coordination with ACE planners, a final AGS estimate of supportability comparing AGS related factors influencing each proposed ACE tactical course of action.
5. Utilize existing plans, SOPs, and lessons learned to develop a concept of logistics/AGS.
6. Develop consumption factors in coordination with the ACE planners.
7. Compute detailed logistic requirements for each phase of the operation, based on types of support and quantities of supplies required.
8. Recommend a priority of support by type and unit as required by the ACE commander.
9. Identify resource deficiencies in coordination with ACE and Marine Air Ground Task Force (MAGTF) planners, other service agencies, for host nation support agreements or inter-service sources of AGS.
10. Coordinate liaison with host nation for building base camp at existing facilities if applicable.
11. Review Memorandum of Agreement (MOA)/Status of Forces Agreement (SOFA) requirements for establishing an airfield using existing facilities, if applicable.
12. Coordinate the planned use of Forward Operating Base (FOB) areas and facilities with ACE planners.
13. Identify AGS shortfalls, problems, and limitations for consideration by the ACE commander.
14. Develop logistical plans to sustain required level of AGS operations.
15. Coordinate with ACE planners and the MAGTF movement control center during the development of the MAGTF transportation plan.
16. Review embarkation data to ensure combat loading has been achieved, as necessary.
17. Develop Operations Order.
18. Brief plan.

REFERENCES:

1. MCO 10110.14_ Marine Corps Food Service and Subsistence Program
2. MCTP 10-10D MAGTF Explosive Ordnance Disposal

3. MCTP 3-20B Aviation Ground Support
4. MCTP 3-30B Information Management
5. MCTP 3-30B.2 MAGTF Communications System
6. MCTP 3-40A Health Service Support Operations
7. MCTP 3-40B Tactical-Level Logistics
8. MCTP 3-40E Maintenance Operations
9. MCTP 3-40F Transportation Operations
10. MCTP 3-40G Services in an Expeditionary Environment
11. MCWP 3-34 Engineering Operations
12. MCWP 4-26 Supply Operations
13. MCWP 5-10 Marine Corps Planning Process

CHAINED EVENTS:

INTERNAL SUPPORTING EVENTS:

AOPS-EAF-6001	AOPS-EFR-6001	AOPS-PLAN-6001
ENGR-PLAN-6001	HQCO-PLAN-6001	MTCO-PLAN-6001

SUPPORT REQUIREMENTS:

SIMULATION EVALUATION:

SIMULATED	SUITABILITY	SIMULATOR	UNIT OF MEASURE	HOURS	PM
Yes	S/L	MTWS	Unit Hours	80	Y

SQDN-PLAN-7002: Plan FOB operations (S/L)

SUPPORTED MET(S):
MCT 1.12.2 MCT 1.12.5.1.1 MCT 1.12.5.1.2
MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: FOBs are established in support of ACE mission requirements. Planning entails problem framing and development of an Air Base Master Plan specific to the area of operations as well as identification of necessary MWSS T/O&E. The FOBs are classified in relation to their size, location and characteristics in the form of airfield services, logistical supportability and maintenance capability. Main air base, air facility, air site, and air point are the four FOB classifications from which the ACE will operate.

CONDITION: Provided with ACE mission requirements, organic personnel, and equipment.

STANDARD: Develop an Air Base Master Plan (ABMP) to be incorporated within an Operations Order that meets established criteria and mission requirements.

EVENT COMPONENTS:
1. Conduct site survey of potential FOB site.
2. Coordinate planning with other units operating from the FOB.

3. Plan internal airfield communication.
4. Plan EAF services.
5. Plan EFR services.
6. Plan aircraft and ground refueling.
7. Plan Explosive Ordnance Disposal (EOD).
8. Plan essential engineering services.
9. Plan motor transportation.
10. Plan field messing.
11. Plan health services.
12. Plan air base commandant functions.
13. Plan Airfield Security Operations (ASO).
14. Task organize.
15. Finalize Air Base Master Plan (ABMP).

REFERENCES: MCTP 3-20B Aviation Ground Support

CHAINED EVENTS:

INTERNAL SUPPORTING EVENTS:

AOPS-EAF-6001	AOPS-EFR-6001	AOPS-PLAN-6001
ENGR-PLAN-6001	HQCO-PLAN-6001	MTCO-PLAN-6001

SUPPORT REQUIREMENTS:

SIMULATION EVALUATION:

SIMULATED	SUITABILITY	SIMULATOR	UNIT OF MEASURE	HOURS	PM
Yes	S/L	MTWS	Unit Hours	80	Y

SQDN-PLAN-7003: Plan Base Recovery After Attack (BRAAT) operations (S/L)

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: BRAAT activities center on restoring an installations mission capabilities after an enemy attack. The ACE must plan to repair damage quickly in order to reestablish aircraft launch and recovery operations.

CONDITION: Given a requirement, BRAAT SOP, commander's intent, organic personnel, equipment, and references.

STANDARD: Develop a BRAAT Plan for incorporation as an annex and or appendix in an Operations Order.

EVENT COMPONENTS:
1. Assemble the planning team.
2. Plan command and control of BRAAT operations.
3. Plan restoration essential communications.

4. Plan damage assessment of the airfield and facilities.
5. Plan EOD actions.
6. Plan Minimum Operating Strip (MOS) selection.
7. Plan Airfield Damage Repair (ADR).
8. Plan employment of aircraft arresting gear systems.
9. Plan MOS marking and lighting.
10. Plan to restore airfield lighting.
11. Plan to support Chemical, Biological, Radiological, Nuclear (CBRN) operations as required.
12. Plan health services.
13. Plan to isolate damaged utilities.
14. Plan emergency utilities.
15. Plan firefighting operations.
16. Plan debris cleanup.
17. Produce BRAAT plan.

REFERENCES: MCTP 3-20B Aviation Ground Support

CHAINED EVENTS:

INTERNAL SUPPORTING EVENTS:

AOPS-EAF-6001	AOPS-EFR-6001	AOPS-PLAN-6001
ENGR-PLAN-6001	HQCO-PLAN-6001	MTCO-PLAN-6001

SUPPORT REQUIREMENTS:

SIMULATION EVALUATION:

SIMULATED	SUITABILITY	SIMULATOR	UNIT OF MEASURE	HOURS	PM
Yes	S/L	MTWS	Unit Hours	80	Y

3004. 6000-LEVEL EVENTS

Event Code	E-Coded	Event	Page
6000 Level Events			
AOPS-EAF-6001	YES	Plan Expeditionary Airfield (EAF) services	3-1
AOPS-EFR-6001	YES	Plan Expeditionary Fire Fighting and Rescue (EFR) services	3-2
AOPS-OPS-6001	YES	Provide Airfield Operations services	3-4
AOPS-PLAN-6001	YES	Plan airfield support services	3-5
ENGR-CMOB-6001	YES	Conduct Countermobility operations (S/L)	3-7
ENGR-OPS-6001	YES	Provide essential engineering services	3-8
ENGR-PLAN-6001	YES	Plan engineer operations (S/L)	3-10
HQCO-OPS-6001	YES	Provide Headquarters & Service Company support	3-11
HQCO-OPS-6002	YES	Establish Aviation Ground Support Operations Center (AGSOC)	3-12
HQCO-OPS-6003	YES	Execute unit embarkation	3-13
HQCO-OPS-6004	YES	Establish Field Mess	3-14
HQCO-PLAN-6001	YES	Plan Headquarters & Service Company support	3-16
HQCO-PLAN-6002	YES	Plan unit embarkation	3-17
MTCO-LIC-6001	YES	Direct a licensing program	3-17
MTCO-OPS-6001	YES	Provide Motor Transport Company services	3-18
MTCO-OPS-6002	YES	Establish a tactical motor pool	3-20
MTCO-OPS-6003	YES	Conduct convoy operations (S/L)	3-21
MTCO-PLAN-6001	YES	Plan Motor Transport Company services	3-22
MWSS-ASO-6001	YES	Establish Flight Line Security (FLS)	3-24
MWSS-ASO-6002	YES	Command and Control Airfield Security Operations Forces	3-25

AOPS-EAF-6001: Plan Expeditionary Airfield (EAF) services

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: To support the ACE Commander by planning EAF services in support of deployed elements of the MAGTF. EAF personnel provide the capability to design the layout of expeditionary airfields and EAF equipment required for construction, certification and maintenance.

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

STANDARD: To provide the ACE or site commander with an expeditionary airfield plan in accordance with NAVAIR design specifications and certification.

EVENT COMPONENTS:

1. Acknowledge receipt of the task and receive the commander's guidance.
2. Conduct site survey.
3. Calculate minimum airfield geometric requirements (to include: runway, taxi way, and parking areas).
4. Calculate airfield lighting and marking requirements (to include: runways, taxi ways, and parking areas).
5. Coordinate airfield design with the MWSS Commander.
6. Calculate the correct number/type of EAF packages required (AM-2 matting, accessory packages, lighting, arresting gear, VLA, etc.).
7. Determine best direction to orient runways considering prevailing winds.
8. Determine best location for M-31 arresting gear on runway, as required.
9. Determine if the weight bearing capability of the soil is sufficient for the aircraft that will operate from the FOB, as required.
10. Identify resources required to construct the airfield.
11. Identify frequencies to be utilized within the FOB.
12. Coordinate engineer support for establishment of expeditionary airfield.
13. Coordinate installation certification for EAF systems.

REFERENCES:
1. MCTP 3-20B Aviation Ground Support
2. MCWP 5-10 Marine Corps Planning Process
3. NAVAIR 00-80T-115 Expeditionary Airfield NATOPS Manual
4. NAVAIR 51-40ABA-14 Portable Shore Based Fresnel Lens OLS MK 8 MOD 0 & MOD 1
5. NAVAIR 51-40ABA-7 Lighting & Marking for EAF
6. NAVAIR 51-40ACB-1 Airfield Emergency Portable Marker Light
7. NAVAIR 51-50ABA-16(_) Minimum Operating Strip Lighting System (MOSLS)
8. NAVAIR 51-5FAA-1(_) M31 Marine Corps Expeditionary Arresting Gear System
9. NAVAIR 51-60-A-1 Installation, Maintenance, Repackaging and Illustrated Parts Breakdown, AM-2 Airfield Mat and Accessories
10. NAVAIRINST 13800.12B Certification of Expeditionary Airfield AM-2 Mat Installations, Aircraft Recovery Equipment, Visual/Optical Landing Aids, and Marking/Lighting Systems
11. OPNAVINST 4790.2 The Naval Aviation Maintenance Program (NAMP)

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

SQDN-PLAN-7001	SQDN-PLAN-7002

INTERNAL SUPPORTING EVENTS:

AOPS-EAF-4005	ENGR-PLAN-6001	ENGR-RECN-5001
HQCO-OPS-6001	MTCO-PLAN-6001	

MISCELLANEOUS:

SPECIAL PERSONNEL CERTS: Any and all required certification necessary to perform, conduct or validate the event.

AOPS-EFR-6001: Plan Expeditionary Fire Fighting and Rescue (EFR) services

SUPPORTED MET(S):

MCT 1.12.2 MCT 1.12.5.1.1 MCT 1.12.5.1.2
MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Provide EFR services in support of airfield operations (AOPS) at FOB and support installations. Services include: fire suppression and extinguishment on aircraft and structures, casualty extrication and rescue, basic emergency medical services, recovery operations, and immediate hazardous material operations level response. While supporting a FOB, the EFR Platoon is also responsible for the effective implementation and management of fire protection and prevention programs.

CONDITION: Given a mission requirement, Air Base Master Plan (ABMP), commander's intent, personnel, and the references.

STANDARD: To produce fire bill, EFR SOP, and standardization of cover.

EVENT COMPONENTS:
1. Review mission requirements.
2. Plan equipment and personnel based upon the type of FOB and aircraft operations.
3. Coordinate with joint/host nation for availability of support assets.
4. Analyze diagram of the Forward Observation Base (FOB) to include base camp.
5. Coordinate EFR communications.
6. Select immediate response position, strategically located on the airfield to observe all landings and take-offs.
7. Select standby alert positions (remaining complement of manned major aircraft firefighting and rescue vehicles to meet minimum response requirements).
8. Establish fire inspection/safety program and coordinate with personnel designing/constructing base camp to ensure compliance with tent camp fire safety procedures (tent spacing, fire lanes, etc.).
9. Establish firefighting support plan from the ABMP.
10. Coordinate with personnel designing/constructing Base Camp to ensure compliance with Tent Camp Fire Safety procedures (tent spacing, fire lanes, etc.).
11. Coordinate with the Air Base commandant for the preparation of the fire bill.

REFERENCES:
1. DoDI 6055.06 DoD Fire and Emergency Services (F&ES) Program
2. MCO P11000.11 Marine Corps Fire Protection and Emergency Services Program
3. MCTP 3-20B Aviation Ground Support
4. NAVAIR 00-80R-14 NATOPS U.S. Navy Aircraft Emergency Rescue Information
5. NAVAIR 00-80R-14-1 NATOPS U.S. Navy Aircraft Emergency Rescue Information Manual
6. NAVAIR 00-80R-20 NATOPS U.S. Navy Aircraft Crash & Salvage Operations Manual (Ashore)

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
AOPS-PLAN-6001 SQDN-PLAN-7001 SQDN-PLAN-7002

INTERNAL SUPPORTING EVENTS:
AOPS-EFR-5001 ENGR-PLAN-6001 HQCO-OPS-6001
MTCO-PLAN-6001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

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

MISCELLANEOUS:

SPECIAL PERSONNEL CERTS: Any and all required certification necessary to perform, conduct or validate the event.

AOPS-OPS-6001: Provide Airfield Operations services

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: The MWSS Airfield Operations Company provides the preponderance of airfield services. At established airfields and FOBs, the Airfield Operations Company provides the technical expertise, equipment, and personnel necessary to support flight line operations.

CONDITION: Given a requirement for an Airfield Operations Company, commander's intent, personnel, equipment, and references.

STANDARD: To support up to one FOB and two FARPs.

EVENT COMPONENTS:
1. Provide Expeditionary Airfield (EAF) services.
2. Provide Expeditionary Fire Fighting and Rescue (EFR) services.
3. Provide aviation refueling services.
4. Provide ground refueling services.
5. Provide Explosive Ordnance Disposal (EOD).

REFERENCES:
1. MCTP 3-20B Aviation Ground Support
2. NAVAIR 00-80R-14 NATOPS U.S. Navy Aircraft Emergency Rescue Information
3. NAVAIR 00-80R-14-1 NATOPS U.S. Navy Aircraft Emergency Rescue Information Manual
4. NAVAIR 00-80R-20 NATOPS U.S. Navy Aircraft Crash & Salvage Operations Manual (Ashore)
5. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
6. NAVAIR 00-80T-115 Expeditionary Airfield NATOPS Manual
7. NAVAIRINST 13800.12B Certification of Expeditionary Airfield AM-2 Mat Installations, Aircraft Recovery Equipment, Visual/Optical Landing Aids,

and Marking/Lighting Systems
8. NAVAIRINST 13800.13B Certification of Shore-Based Aircraft Recovery Equipment and Visual/
Optical Landing Aids Systems
9. Naval Warfare Publication NWP) 55-3-AH1, AH-1 Tactical Manual
10. NAVMC 3500.12_ Marine Corps Engineer and Utilities Training and Readiness Manual

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
SQDN-OPS-7003 SQDN-PLAN-7001

INTERNAL SUPPORTING EVENTS:

AOPS-EAF-6001	AOPS-EFR-5001	AOPS-EFR-5002
AOPS-FUEL-5001	AOPS-FUEL-5002	AOPS-FUEL-5003
ENGR-OPS-6001	HQCO-OPS-6001	MTCO-OPS-6001
MTCO-OPS-6003		

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17330 Covered 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
Facility Code 17925 Airfield Site Selection Training Area
Facility Code 17933 POL Training Area
Facility Code 17951 Fire Fighting And Rescue Training Area

MISCELLANEOUS:

SPECIAL PERSONNEL CERTS: Any and all required certification or licenses necessary to perform, conduct, or validate the event.

AOPS-PLAN-6001: Plan airfield support services

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: To support the ACE Commander by planning airfield support services in support of deployed elements of the MAGTF. Airfield Operations Company provides the capability within the MWSS to design and support tactical airfields. This capability is enabled by the planning of Expeditionary Firefighting Rescue (EFR) services and Expeditionary Airfield Services in support of airfield operations (AOPS) at FOB and support installations. Services include: Fire Suppression and extinguishment on aircraft and structures, casualty extrication and rescue, basic emergency medical services, airfield lighting and marking, expeditionary airfield systems, recovery operations, immediate hazardous material response, explosive ordnance disposal (EOD), aircraft incidents involving ordnance malfunctions, aircraft parking plans, tactical landing zone surveys, pavement assessment evaluations, bulk fueling services, tactical fueling sites, mobile fueling operations and Forward Arming and Refueling Point (FARP) Operations. While supporting a FOB, AOPS Company is also responsible for the effective implementation and management of airfield safety programs.

CONDITION: Given a mission requirement, commander's intent, organic personnel, and the references.

STANDARD: To provide the ACE or site commander with an expeditionary airfield plan to enable sortie generation.

EVENT COMPONENTS:
1. Review mission requirements.
2. Plan equipment and personnel based upon the type of FOB and aircraft operations.
3. Coordinate with joint/host nation for availability of support assets.
4. Analyze diagram of the FOB to include base camp.
5. Coordinate communication requirements for all AOPS entities.
6. Select strategic location on the airfield to better assess hazards and observe daily operations.
7. Provide Grid Reference Guide ISO ABMP.

REFERENCES:
1. AEODPS 60 Series Automated EOD Publication System
2. MCO 3571.2_ Explosive Ordnance Disposal (EOD) Program
3. MCTP 3-20B Aviation Ground Support
4. NAVAIR 00-80R-14 NATOPS U.S. Navy Aircraft Emergency Rescue Information
5. NAVAIR 00-80R-14-1 NATOPS U.S. Navy Aircraft Emergency Rescue Information Manual
6. NAVAIR 00-80R-20 NATOPS U.S. Navy Aircraft Crash & Salvage Operations Manual (Ashore)
7. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
8. NAVAIR 00-80T-115 Expeditionary Airfield NATOPS Manual

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

SQDN-OPS-7003	SQDN-PLAN-7001

INTERNAL SUPPORTING EVENTS:

AOPS-EFR-5001	AOPS-FUEL-5002	ENGR-PLAN-6001
ENGR-RECN-5001	HQCO-OPS-6001	HQCO-PLAN-6001
MTCO-PLAN-6001		

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

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

MISCELLANEOUS:

SPECIAL PERSONNEL CERTS: Any and all required certification necessary to conduct or validate the event.

ENGR-CMOB-6001: Conduct Countermobility operations (S/L)

SUPPORTED MET(S):
MCT 1.4.1.5 MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: Countermobility operations use or enhance the effects of natural and man-made obstacles to deny the enemy freedom of movement and maneuver. Countermobility operations enable ACE security forces to defend in depth.

CONDITION: Given a mission, an airbase ground security operations plan, commander's intent, available personnel, material resources and equipment.

STANDARD: To fix, turn, block, or disrupt enemy forces in support of ACE airbase ground security operations plan.

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 obstacle belt, as required.
8. Maintain obstacles and barriers.
9. Complete administrative actions (records, reports and forms).

REFERENCES:
1. MCTP 3-34B Combined Arms Countermobility Operations
2. MCWP 3-34 Engineering Operations
3. MCWP 5-10 Marine Corps Planning Process

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: SQDN-OPS-7003

INTERNAL SUPPORTING EVENTS: ENGR-CMOB-5001

SUPPORT REQUIREMENTS:

SIMULATION EVALUATION:

SIMULATED	SUITABILITY	SIMULATOR	UNIT OF MEASURE	HOURS	PM
Yes	S/L	DVTE	Marine Hours	80	Y

NOTES: Simulation hours are recommendations based on input from engineer SMEs during the Simulation Assessment Working Group (SAWG) in Sept 2015. Assigned hours are not intended to be prescriptive or restrictive. Units are encouraged to catalog actual simulation hours conducted during training in order to update the simulation appendix during the next T&R Manual review.

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 17931 Medium/Heavy Equipment Training Area

EQUIPMENT: Material Handling Equipment, combat engineer equipment, construction equipment, motor transport and communication assets

UNITS/PERSONNEL: Officer in Charge, Range Safety Officer, corpsman, engineer equipment operator, motor transport operator and communicator

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ENGR-OPS-6001: Provide essential engineering services

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: The MWSS is the primary Marine engineer unit to provide engineering services, utilities, construction equipment, and material handling equipment support to the ACE at, up to, a FOB and two FARPs.

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

STANDARD: In accordance with references, concept of operations and supported unit requirements.

EVENT COMPONENTS:
1. Review mission.
2. Determine requirements.
3. Coordinate planning efforts with higher headquarters.
4. Task organize.
5. Conduct engineer reconnaissance.
6. Construct and maintain expedient roads.

7. Construct, maintain, and improve vertical or short takeoff and landing sites.
8. Construct and maintain mission essential base camp requirements (temporary structures).
9. Provide technical and equipment assistance for erection of pre-engineered buildings.
10. Provide utilities support.
11. Develop, improve, and maintain drainage systems.
12. Provide expeditionary horizontal construction.
13. Provide expeditionary vertical construction.
14. Provide survivability positions, as required.
15. Provide engineer equipment to support operations.
16. Provide engineer equipment maintenance.
17. Provide surveying capabilities.
18. Provide support for BRAAT operations.

REFERENCES:

1. MCRP 2-10B.1 Intelligence Preparation of the Battlefield/Battlespace
2. MCRP 3-34.1 Engineer Field Data
3. MCRP 3-34.3 Engineer Reconnaissance
4. MCRP 3-40D.1 Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Road Design
5. MCRP 3-40D.11 Theater of Operations Electrical Systems
6. MCRP 3-40D.13 Base Camps
7. MCRP 3-40D.2 Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Airfield and Heliport Design
8. MCRP 3-40D.4 Concrete and Masonry
9. MCRP 3-40D.5 Plumbing, Pipe Fitting, and Sewerage
10. MCRP 3-40D.6 Construction Project Management
11. MCRP 3-40D.7 Military Soils Engineering
12. MCRP 3-40D.9 Earthmoving Operations
13. MCTP 3-34B Combined Arms Countermobility Operations
14. MCTP 3-34C Survivability Operations
15. MCTP 3-40B Tactical-Level Logistics
16. MCWP 3-34 Engineering Operations
17. NAVAIR 00-80T-115 Expeditionary Airfield NATOPS Manual
18. NAVAIR 51-60-A-1 Installation, Maintenance, Repackaging and Illustrated Parts Breakdown, AM-2 Airfield Mat and Accessories

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

SQDN-OPS-7003	SQDN-OPS-7005	SQDN-PLAN-7002

INTERNAL SUPPORTING EVENTS:

ENGR-EQIP-5001	ENGR-HORZ-5001	ENGR-MANT-5001
ENGR-MOBL-5001	ENGR-MOBL-5002	ENGR-RECN-5001
ENGR-SURV-5001	ENGR-UTIL-5001	ENGR-VERT-5001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17413 Field Training Area
Facility Code 17918 Road/Airfield Construction Training Site
Facility Code 17924 Water Supply Training Area

EQUIPMENT:
- Construction Equipment (CE)
- Material Handling Equipment (MHE)
- Utilities equipment
- Bulk fuel equipment
- Combat engineer tools & kits
- Communication assets
- Motor Transport equipment

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman - Combat engineers
- Combat engineers
- Engineer equipment operators
- Utilities personnel
- Motor transport operators
- Communicators

MISCELLANEOUS:

SPECIAL PERSONNEL CERTS: MWSD, MWSS (-) ability to conduct will vary.

ENGR-PLAN-6001: Plan engineer operations (S/L)

SUPPORTED MET(S):

MCT 1.12.2	MCT 1.12.5.1.1	MCT 1.12.5.1.2
MCT 1.4.1.5	MCT 6.1.1.3.4.1	

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

READINESS-CODED: NO

DESCRIPTION: Plan MWSS essential engineer services to optimize the use of engineer personnel and equipment in accordance with mission analysis, commander's intent and concept of operations.

CONDITION: Given an order, personnel, equipment and references.

STANDARD: To produce an engineer support plan, annex, or appendix.

EVENT COMPONENTS:
1. Analyze engineer mission.
2. Coordinate with supported and supporting units.
3. Integrate command and control (internal/external).
4. Conduct engineer reconnaissance, as required.
5. Conduct site survey, as required.
6. Determine engineer estimates (Activity on a Node (AON), Gantt, etc.).
7. Task organize.
8. Coordinate resource shortfalls (personnel, equipment).
9. Coordinate logistical requirements (classes of supply).
10. Priorities sequence of work.
11. Issue the order.
12. Submit reports, as required.

REFERENCES:

1. MCRP 3-34.2 Explosives and Demolitions
2. MCRP 3-34.3 Engineer Reconnaissance
3. MCRP 3-40D.1 Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Road Design
4. MCRP 3-40D.2 Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Airfield and Heliport Design
5. MCRP 3-40D.9 Earthmoving Operations
6. MCTP 3-34A Combined Arms Mobility
7. MCTP 3-34B Combined Arms Countermobility Operations
8. MCTP 3-34C Survivability Operations
9. MCWP 3-34 Engineering Operations
10. MCWP 5-10 Marine Corps Planning Process

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

SQDN-PLAN-7001	SQDN-PLAN-7002	SQDN-PLAN-7003

INTERNAL SUPPORTING EVENTS:

ENGR-CMOB-5001	ENGR-DEMO-5001	ENGR-EQIP-5001
ENGR-HORZ-5001	ENGR-MANT-5001	ENGR-MOBL-5001
ENGR-MOBL-5002	ENGR-MOBL-5003	ENGR-RECN-5001
ENGR-SURV-5001	ENGR-UTIL-5001	ENGR-VERT-5001

SUPPORT REQUIREMENTS:

SIMULATION EVALUATION:

SIMULATED	SUITABILITY	SIMULATOR	UNIT OF MEASURE	HOURS	PM
Yes	S/L	DVTE	Marine Hours	24	Y

MISCELLANEOUS:

SIMULATION: Simulation hours are recommendations based on input from engineer SMEs during the Simulation Assessment Working Group (SAWG) in Sept 2015. Assigned hours are not intended to be prescriptive or restrictive. Units are encouraged to catalog actual simulation hours conducted during training in order to update the simulation appendix during the next T&R Manual review.

HQCO-OPS-6001: Provide Headquarters & Service Company support

SUPPORTED MET(S):

MCT 1.12.5.1.1	MCT 1.12.5.1.2	MCT 1.4.1.5
MCT 6.1.1.3.4.1		

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

READINESS-CODED: NO

DESCRIPTION: Provide services and planning related to occupational fields that are resident within the company.

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

STANDARD: To support the establishment and continued operations on a forward operating base.

EVENT COMPONENTS:
1. Provide communications.
2. Provide field messing.
3. Provide health services.
4. Provide training of personnel.

REFERENCES:
1. MCO 1553.3_ Unit Training Management (UTM) Program
2. MCRP 3-40G.1 Marine Corps Field Feeding Program
3. MCRP 4-11B Environmental Considerations
4. MCTP 3-20B Aviation Ground Support
5. MCTP 3-30B Information Management
6. MCTP 3-40A Health Service Support Operations
7. NAVMED P-5010-1 Manual of Naval Preventive Medicine Food Safety
8. NAVMED P-5010-9 Manual of Naval Preventive Medicine, Chapter 9, Preventive Medicine for Ground Forces

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

SQDN-OPS-7002	SQDN-OPS-7005

INTERNAL SUPPORTING EVENTS:

HQCO-COMM-5001	HQCO-COMM-5002	HQCO-COMM-5003
HQCO-FLDM-3001	HQCO-MED-5001	HQCO-PLAN-5001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17413 Field Training Area
Facility Code 17918 Road/Airfield Construction Training Site

HQCO-OPS-6002: Establish Aviation Ground Support Operations Center (AGSOC)

SUPPORTED MET(S):

MCT 1.12.5.1.1	MCT 1.12.5.1.2	MCT 1.4.1.5
MCT 6.1.1.3.4.1		

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

READINESS-CODED: NO

DESCRIPTION: The MWSS operates from an AGSOC. The AGSOC is the nucleus for the coordination and execution of AGS services and functions. From the AGSOC, the MWSS commander exercises command and control of MWSS companies and manages squadron activities. The squadron S-3 runs the AGSOC, which includes representation from the squadron's staff and operational sections (i.e., S-1, S-2, S-4, S-6, airfield operations, engineer operations, and MT operations). H&S Company is responsible for establishing the infrastructure, communication architecture, coordinating external support requirements, and providing internal security for the AGSOC.

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

STANDARD: To provide secure infrastructure to plan, monitor, and direct AGS operations and establish and maintain communications with higher, adjacent, and subordinate units.

EVENT COMPONENTS:
1. Determine location.
2. Establish capabilities set (CAPSET).
3. Establish systems control.
4. Organize staff sections.
5. Establish Administration and Logistics Operations Center (ALOC).
6. Establish communication with higher, adjacent, and supporting units.
7. Provide communication and information systems support through the S6.
8. Establish displacement procedures.
9. Maintain continuity of operations.
10. Provide and coordinate internal security requirements for the AGSOC.
11. Coordinate base camp construction and repair.
12. Coordinate base camp services for the Aviation Combat Element (ACE).

REFERENCES:
1. JP 3-10 Joint Security Operations in Theater
2. MCTP 3-20B Aviation Ground Support

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
SQDN-OPS-7001 SQDN-OPS-7002 SQDN-OPS-7006

INTERNAL SUPPORTING EVENTS: MWSS-ASO-5001

SUPPORT REQUIREMENTS:

EQUIPMENT: Capabilities Set (CAPSET) IV

HQCO-OPS-6003: Execute unit embarkation

SUPPORTED MET(S):
MCT 1.12.2 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: The mission essential items identified as not available at the airfield will have to be embarked with the ACE.

CONDITION: Given a requirement, an embarkation plan, personnel, and equipment.

STANDARD: To support MWSS operations in accordance with MCTP 13-10C Unit Embarkation Handbook.

EVENT COMPONENTS:
1. Track unit assets.
2. Certify materiel for shipment.
3. Coordinate unit marshaling operations.
4. Prepare materiel for shipment.
5. Prepare load plans.
6. Load equipment.
7. Coordinate transportation.
8. Submit required reports.

REFERENCES:
1. MCTP 13-10C Unit Embarkation Handbook
2. MCTP 3-20B Aviation Ground Support
3. MCTP 3-40B Tactical-Level Logistics
4. MCTP 3-40F Transportation Operations
5. MCWP 3-40 Logistics Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
SQDN-OPS-7001 SQDN-OPS-7002 SQDN-OPS-7003

INTERNAL SUPPORTING EVENTS: HQCO-PLAN-6002

HQCO-OPS-6004: Establish Field Mess

SUPPORTED MET(S): MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: The Headquarters and Service Company within the MWSS is capable of establishing and operating a field mess that can provide two hot meals per day to ACE personnel. Using organic equipment the MWSS can feed ACE personnel working aboard a FOB, as well as ACE units located at remote locations. The operating schedule for the mess can be aligned to meet the needs of ACE operations, including the requirement to feed night crew personnel.

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

STANDARD: To meet established criteria in accordance with references and ACE mission requirements.

EVENT COMPONENTS:
1. Review the mission requirements.
2. Review feeding site plan.
3. Validate organic table of equipment and table of organization.
4. Identify personnel and equipment shortages, if any.
5. Task organize.
6. Coordinate embarkation.
7. Coordinate essential engineering services.
8. Coordinate supporting resources (Communications, health services, and motor transport).
9. Establish messing facility.
10. Assign in writing a Dining Facility Officer.
11. Submit request for the Basic Daily Food Allowance (BDFA).
12. Develop and submit recommended messing hours to the ACE.
13. Coordinate "A" ration supplements and "B" ration requirements.
14. Establish a subsistence resupply plan.
15. Establish safety and sanitation.
16. Coordinate with Health Service Preventive Medicine Technicians (PMT's).
17. Provide subsistence according to mission requirements.
18. Maintain facility operations.
19. Conduct retrograde operations.
20. Coordinate maintenance requirements.
21. Submit required reports.

REFERENCES:
1. MCO 10110.14_ Marine Corps Food Service and Subsistence Program
2. MCRP 3-34.1 Engineer Field Data
3. MCRP 3-40A.4 Field Hygiene and Sanitation
4. MCRP 3-40D.5 Plumbing, Pipe Fitting, and Sewerage
5. MCRP 3-40D.6 Construction Project Management
6. MCRP 3-40D.9 Earthmoving Operations
7. MCRP 3-40G.1 Marine Corps Field Feeding Program
8. MCTP 13-10C Unit Embarkation Handbook
9. MCTP 3-40B Tactical-Level Logistics
10. MCTP 3-40D General Engineering
11. NAVMED P-5010-1 Manual of Naval Preventive Medicine Food Safety
12. NAVMED P-5010-9 Manual of Naval Preventive Medicine, Chapter 9, Preventive Medicine for Ground Forces
13. UM 4000-125 Retail Supply and Maintenance Execution Procedures

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
SQDN-OPS-7001 SQDN-OPS-7002 SQDN-OPS-7003

INTERNAL SUPPORTING EVENTS: HQCO-PLAN-5001

SUPPORT REQUIREMENTS:

UNITS/PERSONNEL: Preventive Medicine Technicians

HQCO-PLAN-6001: Plan Headquarters & Service Company support

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5
MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: Plan services and planning related to occupational fields that are resident within the company.

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

STANDARD: To support the establishment and continued operations on a forward operating base.

EVENT COMPONENTS:
1. Plan communications.
2. Plan field messing.
3. Plan health services.
4. Plan training of personnel.

REFERENCES:
1. MCO 1553.3_ Unit Training Management (UTM) Program
2. MCRP 3-40G.1 Marine Corps Field Feeding Program
3. MCRP 4-11B Environmental Considerations
4. MCTP 3-20B Aviation Ground Support
5. MCTP 3-30B.2 MAGTF Communications System
6. MCTP 3-40A Health Service Support Operations
7. NAVMED P-5010-1 Manual of Naval Preventive Medicine Food Safety
8. NAVMED P-5010-9 Manual of Naval Preventive Medicine, Chapter 9, Preventive Medicine for Ground Forces

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
SQDN-PLAN-7001 SQDN-PLAN-7002

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17413 Field Training Area
Facility Code 17918 Road/Airfield Construction Training Site

HQCO-PLAN-6002: Plan unit embarkation

SUPPORTED MET(S):

MCT 1.12.2 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: The items not available at the airfield and considered mission essential will have to be identified for embarkation with the ACE.

CONDITION: Given a mission, personnel, and equipment.

STANDARD: With a complete embarkation plan to support MWSS operations in accordance with MCTP 13-10C Unit Embarkation Handbook.

EVENT COMPONENTS:
1. Manage unit embarkation readiness.
2. Review mission.
3. Identify unit assets.
4. Identify materiel for shipment.
5. Identify hazardous material requirements.
6. Determine mode of transportation.
7. Submit embarkation requirements.
8. Complete embarkation plan.

REFERENCES:
1. MCTP 13-10C Unit Embarkation Handbook
2. MCTP 3-20B Aviation Ground Support
3. MCWP 3-40 Logistics Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
SQDN-PLAN-7001 SQDN-PLAN-7002

MTCO-LIC-6001: Direct a licensing program

SUPPORTED MET(S): MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: Because MAGs and their respective squadrons do not have organic MT assets on their T/E, the MWSS maintains the MT assets necessary to fulfill the MT needs for the supported MAG. Subsequently the MWSS will train and license ACE personnel who utilize MWSS vehicles to meet their own MT requirements.

CONDITION: Given licensing authority, personnel, references and equipment.

STANDARD: To accomplish operational requirements IAW MCO 11240.118.

EVENT COMPONENTS:
1. Analyze mission requirements.

2. Administer licensing procedures.
3. Validate program effectiveness.

REFERENCES:
1. MCO 11240.118_ Licensing Program for Tactical Wheeled Motor Transport Equipment Operators
2. TM 11240-15/3_ Tactical Motor Transport Licensing Official's Manual

CHAINED EVENTS:

INTERNAL SUPPORTING EVENTS: MTCO-OPS-5001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17420 Maneuver/Training Area, Heavy Forces

EQUIPMENT: Motor transport equipment and operators Personal Protective Equipment (PPE)

UNITS/PERSONNEL: MT personnel, Corpsman support

MTCO-OPS-6001: Provide Motor Transport Company services

SUPPORTED MET(S):
MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: The MWSS Motor Transport (MT) Company provides the ACE with intra-base MT support. Because MAGs and their respective squadrons do not have organic MT assets on their table of equipment (T/E), the MWSS maintains the MT assets necessary to fulfill the MT needs for the supported MAG. FOB buildup requires rapid planning and the use of MWSS equipment without competing with other MEF requirements for support. Daily movement of ordnance, personnel, supplies, and equipment at an air base is essential to ACE operations. MT Company provides light-, medium-, and heavy-lift with medium and heavy wrecker capabilities to meet ACE requirements intra-base and outside the confines of base, and in support of FARP operations. In addition to providing MT vehicle support, the MWSS trains and licenses ACE personnel who use MWSS vehicles to meet their requirements.

CONDITION: Given a mission, vehicles, personnel, required tools and equipment.

STANDARD: To meet the operational and sustainment requirements of up to one FOB and two FARPs simultaneously.

EVENT COMPONENTS:
1. Review mission.
2. Determine requirements.

3. Provide organic transportation capabilities.
4. Request contracted transportation capabilities, if required.
5. Establish transportation lift support relationships.
6. Utilize materials handling equipment operations support capabilities.
7. Utilize communications capabilities, as required.
8. Establish transportation communication capabilities.
9. Conduct training/licensing of vehicle operators, to include incidental operators.
10. Determine transportation equipment/manpower shortfalls.
11. Communicate to higher headquarters transportation equipment and manpower shortfalls.
12. Plan intra-base support for the MAG/ACE and FOB tenant activities.
13. Ensure internal and external transportation staff actions are synchronized.
14. Process transportation support requests.
15. Consolidate transportation support requests if applicable.
16. Track transportation capability availability.
17. Plan convoy operations.
18. Execute convoy operations.
19. Track the status of current transportation operations.
20. Track transportation support asset availability.
21. Track passenger, cargo, and vehicle throughput.
22. Report transportation requirements status.
23. Track equipment readiness.
24. Conduct maintenance operations.

REFERENCES:

1. MCO 11240.118_ Licensing Program for Tactical Wheeled Motor Transport Equipment Operators
2. MCRP 3-40F.7 Multi-Service Tactics, Techniques, and Procedures for Tactical Convoy Operations (TCO)
3. MCRP 4-11.3F Convoy Operations Handbook
4. MCRP 4-11.4A Recovery and Battle Damage Assessment and Repair
5. MCTP 3-20B Aviation Ground Support
6. MCTP 3-40E Maintenance Operations
7. MCTP 3-40F Transportation Operations
8. MCWP 5-10 Marine Corps Planning Process
9. TM 11240-15/3 Motor Vehicle Licensing Official's Manual
10. TM 11240-15/B Principal Technical Characteristics of U.S. Marine Corps Motor Transportation Equipment

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

SQDN-OPS-7001	SQDN-OPS-7002	SQDN-OPS-7003
SQDN-OPS-7004	SQDN-OPS-7005	SQDN-OPS-7006

INTERNAL SUPPORTING EVENTS:

MTCO-MANT-5001	MTCO-OPS-5001	MTCO-OPS-5002

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Local Standard Operating Procedures apply based upon the area of operations.

MTCO-OPS-6002: Establish a tactical motor pool

SUPPORTED MET(S): MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: The tactical motor pool supports the MWSS as well as other units operating out of the FOB (base camp and airfield). It provides a centralized location for the management and maintenance of motor transport assets.

CONDITION: Provided with the requirement, equipment, and personnel.

STANDARD: To meet operational requirements without mishap.

EVENT COMPONENTS:
1. Conduct site recon.
2. Prepare a security plan.
3. Develop space requirements for equipment.
4. Develop space requirements for facilities.
5. Construct road network requirements.
6. Prepare a defense plan.
7. Create a fire prevention plan.
8. Observe environmental considerations.

REFERENCES:
1. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
2. MCTP 3-20B Aviation Ground Support
3. MCTP 3-40E Maintenance Operations
4. TM 11240-14/2 Logistic Consideration for Motor Transport Convoy Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
SQDN-PLAN-7001 SQDN-PLAN-7002

INTERNAL SUPPORTING EVENTS: MTCO-OPS-5002

MTCO-OPS-6003: Conduct convoy operations (S/L)

SUPPORTED MET(S):
MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: A tactical convoy is a deliberate planned combat operation to move personnel and/or cargo via ground transportation in a secure manner under the control of a single commander. Tactical convoys must have access to the current common operational picture and maintain an aggressive posture that is both agile and unpredictable. Contact with the enemy can be mitigated by security and detailed planning/coordination; however, the convoy should be prepared to take immediate action against any enemy threat.

CONDITION: Given an operations order, vehicles, personnel, required tools, and equipment.

STANDARD: To achieve operational objectives in accordance with mission requirements.

EVENT COMPONENTS:
1. Receive the operation order.
2. Draft a movement order.
3. Identify classifications for routes.
4. Conduct a convoy commander's brief.
5. Create a defense plan for tactical convoy.
6. Establish convoy communication.
7. Establish convoy security.
8. Perform land navigation (convoy).
9. Conduct a debrief.
10. Prepare a convoy commander's after action report.

REFERENCES:
1. MCRP 3-34.3 Engineer Reconnaissance
2. MCRP 3-40-3_ Multi-Service Communications Procedures and Tactical Radio Procedures in Joint Environment
3. MCRP 3-40F.7 Multi-Service Tactics, Techniques, and Procedures for Tactical Convoy Operations (TCO)
4. MCRP 4-11.3F Convoy Operations Handbook
5. MCRP 4-11.4A Recovery and Battle Damage Assessment and Repair
6. MCTP 3-20B Aviation Ground Support
7. MCTP 3-34A Combined Arms Mobility
8. MCTP 3-40E Maintenance Operations
9. MCTP 3-40F Transportation Operations
10. MCWP 5-10 Marine Corps Planning Process
11. TM 11240-15/B Principal Technical Characteristics of U.S. Marine Corps Motor Transportation Equipment

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

SQDN-PLAN-7001	SQDN-PLAN-7002	SQDN-PLAN-7003

INTERNAL SUPPORTING EVENTS:

ENGR-RECN-5001	MTCO-OPS-5001

SUPPORT REQUIREMENTS:

SIMULATION EVALUATION:

SIMULATED	SUITABILITY	SIMULATOR	UNIT OF MEASURE	HOURS	PM
Yes	S/L	CCS	Crew Hours	40	Y

NOTES: Simulation hours are recommendations based on input from SMEs during the Simulation Assessment Working Group (SAWG) in Sept 2015. Assigned hours are not intended to be prescriptive or restrictive. Units are encouraged to catalog actual simulation hours conducted during training in order to update the simulation appendix during the next T&R Manual review.

RANGE/TRAINING AREA:

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

EQUIPMENT: Motor transportation assets, communication equipment and electronic countermeasures

UNITS/PERSONNEL: Officer in Charge, Range Safety Officer, corpsman, motor transport operators and communicators

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Local Standard Operating Procedures apply based upon the area of operations.

MTCO-PLAN-6001: Plan Motor Transport Company services

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: MWSS Motor Transport Company is tailored to support MAG/ACE and FOB tenant activities with light, medium, and heavy tactical vehicles for daily intra-base support requirements. MT can provide organic vehicles which are capable of the establishment and buildup of two FARPs simultaneously. MWSS may requires augmented transportation support for larger than MAG size activities such as: deployment/redeployment, Airbase/facility build-up, leapfrogging of two or more FARPs simultaneously, and support to large scale construction projects. The company consists of an Operations Platoon, Licensing Section, and a Maintenance Platoon, that contains a Wrecker Section. The MT Company is responsible and capable of the following tasks: lift support of personnel and cargo, to include bulk water and fuel; planning and execution of convoys to include organic security measures; tactical mobility to support FARP operations; training/licensing of incidental operators; operator/crew maintenance of organic equipment; and crew maintenance for supported units.

CONDITION: Given a mission, vehicles, personnel, required tools and equipment.

STANDARD: To meet the operational and sustainment requirements of up to one FOB and two FARPs simultaneously.

EVENT COMPONENTS:

1. Analyze the mission.
2. Determine critical tasks.
3. Request intelligence/information to determine traffic-ability, soil characteristics and weight bearing properties.
4. Request topographical products (maps, aerial imagery, and other special topographical documents).
5. Provide staff input during the development of the logistics and the AGS estimates of supportability.
6. Make recommendations to the squadron Commanding Officer on the employment of MT assets.
7. Determine MT support and field-level maintenance requirements.
8. Develop traffic circulation plan within the motor pool.
9. Employ centralized control measures to ensure prioritization and efficient use of vehicles.
10. Identify the fuel and lubricant requirements to support the vehicle fleet.
11. Plan motor transport security, to include cover and camouflage, when vehicles are not in use.
12. Request communications equipment, frequencies, and call signs.
13. Identify all special/additional equipment requirements.
14. Initiate continuous PMCS.
15. Plan risk management.

REFERENCES:

1. MCO 11240.118_ Licensing Program for Tactical Wheeled Motor Transport Equipment Operators
2. MCRP 3-40F.7 Multi-Service Tactics, Techniques, and Procedures for Tactical Convoy Operations (TCO)
3. MCRP 4-11.3F Convoy Operations Handbook
4. MCTP 3-20B Aviation Ground Support
5. MCTP 3-40E Maintenance Operations
6. MCTP 3-40F Transportation Operations
7. MCWP 5-10 Marine Corps Planning Process
8. TM 11240-15/B Principal Technical Characteristics of U.S. Marine Corps Motor Transportation Equipment

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

SQDN-PLAN-7001	SQDN-PLAN-7002	SQDN-PLAN-7003

INTERNAL SUPPORTING EVENTS:

MTCO-MANT-5001	MTCO-OPS-5001	MTCO-OPS-5002

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Local Standard Operating Procedures apply based upon the area of operations.

MWSS-ASO-6001: Establish Flight Line Security (FLS)

SUPPORTED MET(S): MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: The MWSS's primary force protection mission is Airfield Security Operations (ASO), consisting of a flight line and two air points. An MWSS is capable of providing simultaneous AGS and ASO provided it has tenant unit augmentation for Airfield Security Operations. FLS is internal security for critical capabilities and high value assets located within a perimeter inside the boundaries of a base. FLS is often used to control access to aircraft and aircrew, as well aircraft maintenance and ordnance areas, or any areas which are designated by the commanders as restricted or limited access.

CONDITION: Given a requirement, an ASO plan, equipment, and personnel.

STANDARD: Designed to defend the personnel, aircraft, infrastructure, and facilities that are critical to sortie generation.

EVENT COMPONENTS:
1. Review ASO plan.
2. Provide security for critical ACE infrastructure.
3. Provide security for critical ACE facilities.
4. Apply active security measures, as required.
5. Apply passives security measures, as required.
6. Defend against level I security threat.
7. Defend against level II security threat.
8. Integrate augment personnel.
9. Coordinate with AGSOC.

REFERENCES:
1. MCO 5530.15 U.S. Marine Corps Interior Guard Manual
2. MCTP 3-20B Aviation Ground Support
3. MCTP 3-30C Rear Area Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
MWSS-ASO-7001 MWSS-ASO-7002 MWSS-ASO-7003

INTERNAL SUPPORTING EVENTS:
ENGR-CMOB-5001 ENGR-SURV-5001 ENGR-SURV-5002
MWSS-ASO-5001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17330 Covered Training Area
Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Equipment and weapons used by the MWSS security personnel, i.e. engineer, motor transportation, communication, Explosive Ordnance Disposal (EOD), and C4I Assets and equipment.

MWSS-ASO-6002: Command and Control Airfield Security Operations Forces

SUPPORTED MET(S): MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: The Base Defense Operations Center (BDOC) is the nucleus for the ACE rear area defense. It provides the management, tasking, and supervision for the ACE's ASO forces and operations. The ACE commander is ultimately responsible for ASO but normally delegates that authority to the MWSS commander. Through the squadron AGSOC, the MWSS commander coordinates and supports BDOC operations. Although the MWSS S-3 operations officer supervises operations assigned to the squadron, the MWSS commander will assign an officer, to oversee ASO operations.

CONDITION: Given an operations order, commander's intent, task organized personnel, equipment, and references.

STANDARD: To coordinate ASO within the designed criteria and the commander's intent.

EVENT COMPONENTS:
1. Maintain liaison with BDOC.
2. Coordinate with ASO elements.
3. Coordinate site security (guard posts and patrols).
4. Coordinate the placement of crew served weapons for employment.
5. Coordinate airfield/flight line security based on the anticipated threat.
6. Employ active and passive security measures to counter the threat.
7. Coordinate airfield defensive positions that allow for mutual support in defense of the FOB, emphasizing coordinated surveillance, exchange of information, coordinated fires, and final protective fires.
8. Identify and prepare primary and supplementary defensive positions.
9. Coordinate defense in-depth plan through the use of supplementary positions and alternate positions for crew served weapons, and preplanned fires into threatened areas.
10. Employ a series of field expedient and constructed obstacles to fix, turn, block, or disrupt the movement of enemy forces.
11. Maintain dispersion and employ use of camouflage on resources and individuals to avoid presenting the enemy with an easy targeting opportunity.
12. Employ maximum available surveillance and tactical remote sensor devices to detect enemy movement.
13. Ensure signals are utilized to alert units within the flight line area of operations of an increase in the enemy threat condition.
14. Execute day and night rehearsals of the airfield/flight line security force.
15. Establish wire communications where and when possible.
16. Disseminate to the Airfield Security element the most current security information acquired by BDOC security elements and, as required, to higher headquarters.
17. Provide BDOC with all required reports and records for employment of

demolitions (when authorized) in defense of the flight line area

REFERENCES:

1. MCTP 3-20B Aviation Ground Support
2. MCTP 3-30C Rear Area Operations
3. MCTP 3-34B Combined Arms Countermobility Operations

CHAINED EVENTS:

INTERNAL SUPPORTING EVENTS: MWSS-ASO-5001

3005. 5000-LEVEL EVENTS

Event Code	E-Coded	Event	Page
5000 Level Events			
AOPS-EAF-5001	YES	Provide Expeditionary Airfield (EAF) services	3-1
AOPS-EFR-5001	YES	Provide EFR services	3-3
AOPS-EFR-5002	YES	Provide initial response to mass casualty	3-4
AOPS-FUEL-5001	YES	Conduct Aviation refueling	3-5
AOPS-FUEL-5002	YES	Construct bulk fuel site	3-6
AOPS-FUEL-5003	NO	Conduct tactical bulk fuel operations	3-7
ENGR-CMOB-5001	YES	Create an obstacle group (S/L)	3-9
ENGR-DEMO-5001	YES	Conduct demolition operations	3-11
ENGR-EQIP-5001	NO	Provide engineer equipment support	3-13
ENGR-HORZ-5001	NO	Conduct horizontal construction	3-15
ENGR-MANT-5001	NO	Maintain engineer equipment	3-16
ENGR-MOBL-5001	YES	Conduct Airfield Damage Repair (ADR)	3-18
ENGR-MOBL-5002	NO	Construct Landing Zones (LZ)	3-19
ENGR-MOBL-5003	NO	Conduct area clearance operations	3-20
ENGR-RECN-5001	YES	Conduct engineer reconnaissance (S/L)	3-22
ENGR-SURV-5001	YES	Construct survivability positions	3-24
ENGR-SURV-5002	YES	Harden existing structure(s)	3-26
ENGR-UTIL-5001	NO	Provide utilities support	3-27
ENGR-VERT-5001	NO	Conduct vertical construction	3-29
HQCO-COMM-5001	YES	Distribute communication services across the MAGTF/MSE	3-30
HQCO-COMM-5002	YES	Provide access to DISN services	3-31
HQCO-COMM-5003	YES	Establish a communications site	3-32
HQCO-DATA-5001	NO	Provide data services	3-33
HQCO-MED-5001	YES	Provide medical services	3-34
HQCO-MED-5002	YES	Perform mass casualty	3-35
HQCO-NET-5001	NO	Provide network services	3-36
HQCO-OPS-5001	YES	Conduct Minimum Operating Strip (MOS) selection	3-37
HQCO-PLAN-5001	YES	Plan Field Mess	3-37
MTCO-MANT-5001	NO	Employ Motor Transport Maintenance Platoon	3-39
MTCO-OPS-5001	NO	Conduct convoy operations (L/S)	3-40
MTCO-OPS-5002	NO	Establish a tactical motor pool	3-41
MTCO-OPS-5003	NO	Employ Motor Transport Operations Platoon	3-42
MWSS-ASO-5001	YES	Conduct guard force operations	3-43

AOPS-EAF-5001: Provide Expeditionary Airfield (EAF) services

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: The expeditionary airfield (EAF) is a shore-based aviation support system that permits landing force aircraft to operate from FOBs within effective range of ground forces. EAF is a construction concept used to develop or enhance FOBs and should not be confused with a concept of employment for Marine aviation. Although a FOB may be a simple grass landing zone (LZ) supporting helicopter operations, the installation and use of one or more EAF subsystems (e.g. fresnel lens, airfield lighting) will add versatility and durability to the site selected.

CONDITION: Given a mission requirement, commander's intent, organic personnel, equipment, tools, and the references.

STANDARD: In accordance with references, for up to one FOB and two FARPs.

EVENT COMPONENTS:
1. Provide expeditionary airfield surfacing services.
2. Provide aircraft arrestment services, as required.
3. Provide airfield terminal guidance services, as required.
4. Provide airfield marking and lighting services.

REFERENCES:
1. MCTP 3-20B Aviation Ground Support
2. NAVAIR 00-80T-115 Expeditionary Airfield NATOPS Manual
3. NAVAIR 51-40ABA-14 Portable Shore Based Fresnel Lens OLS MK 8 MOD 0 & MOD 1
4. NAVAIR 51-40ABA-18 Lighting & Marking for EAF Bare-Base Airfields
5. NAVAIR 51-40ABA-7 Lighting & Marking for EAF
6. NAVAIR 51-50ABA-16(_) Minimum Operating Strip Lighting System (MOSLS)
7. NAVAIR 51-5FAA-1(_) M31 Marine Corps Expeditionary Arresting Gear System
8. NAVAIR 51-60A-1(_) AM2 Airfield Mat and Accessories
9. NAVAIRINST 13800.13B Certification of Shore-Based Aircraft Recovery Equipment and Visual/
   Optical Landing Aids Systems

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: AOPS-EAF-6001

INTERNAL SUPPORTING EVENTS:

AOPS-EAF-4002	AOPS-EAF-4003	AOPS-EAF-4004
AOPS-EAF-4005	ENGR-DEMO-5001	ENGR-EQIP-5001
ENGR-HORZ-5001	ENGR-MOBL-5001	ENGR-MOBL-5002
ENGR-MOBL-5003	ENGR-RECN-5001	ENGR-UTIL-5001
ENGR-VERT-4001	HQCO-COMM-5001	HQCO-COMM-5002
HQCO-COMM-5003	HQCO-OPS-5001	

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

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

MISCELLANEOUS:

SPECIAL PERSONNEL CERTS: Any and all required certification necessary to perform, conduct or validate the event.

AOPS-EFR-5001: Provide EFR services

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Provide EFR services in support of airfield operations (AOPS) at forward operating bases FOB and support installations. Services include: Fire Suppression and extinguishment on aircraft and structures, casualty extrication and rescue, basic emergency medical services, salvage in support of recovery operations, and immediate hazardous material operations level response. While supporting a FOB, the EFR Platoon is also responsible for the effective implementation and management of fire protection and prevention programs.

CONDITION: Given a mission, Air Base Master Plan (ABMP), commander's intent, organic personnel, equipment, tools and references.

STANDARD: In accordance with references, to up to a FOB and two FARPs.

EVENT COMPONENTS:
1. Review mission requirements.
2. Employ personnel and equipment based on requirements, type of expeditionary FOB and aircraft operations.
3. Integrate with joint/host nation rescue and firefighting support assets, as necessary.
4. Create a diagram of the FOB facilities to include the base camp.
5. Determine structural firefighting requirements.
6. Implement fire prevention program.
7. Utilize EFR emergency fire and rescue communications.
8. Respond from immediate response position.
9. Utilize standby alert positions.
10. Employ EFR/structural firefighting duty sections.
11. Develop Fire Inspection/Safety Program.
12. Implement Fire Inspection/Safety Program.

REFERENCES:
1. DoDI 6055.06 DoD Fire and Emergency Services (F&ES) Program
2. MCO P11000.11 Marine Corps Fire Protection and Emergency Services Program
3. MCTP 3-20B Aviation Ground Support
4. NAVAIR 00-80R-14 NATOPS U.S. Navy Aircraft Emergency Rescue Information
5. NAVAIR 00-80R-14-1 NATOPS U.S. Navy Aircraft Emergency Rescue Information Manual
6. NAVAIR 00-80R-20 NATOPS U.S. Navy Aircraft Crash & Salvage Operations Manual (Ashore)

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

AOPS-EFR-5002	AOPS-OPS-6001

INTERNAL SUPPORTING EVENTS:

AOPS-EFR-4001	AOPS-EFR-4002	ENGR-EQIP-5001
ENGR-UTIL-5001	HQCO-COMM-5001	HQCO-COMM-5002
HQCO-COMM-5003	HQCO-MED-5001	HQCO-MED-5002
HQCO-OPS-5001	MTCO-MANT-5001	MTCO-OPS-5001

MISCELLANEOUS:

SPECIAL PERSONNEL CERTS: Any and all required certification necessary to perform, conduct or validate the event.

AOPS-EFR-5002: Provide initial response to mass casualty

SUPPORTED MET(S):

MCT 1.12.5.1.1	MCT 1.12.5.1.2	MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: While there are flight sorties taking place at a FOB, EFR personnel are positioned on the airfield to provide the initial response to aircraft/facilities related incidents that produce mass casualties. EFR personnel are trained and equipped to provide basic emergency medical services, assist with triage and evacuation of casualties. Upon notification of a mass casualty incident, health services personnel will assume responsibility for the triage, treatment and evacuation of casualties.

CONDITION: Given a mission, organic personnel, equipment and references.

STANDARD: To locate, triage, and treat casualties for onward movement to higher echelons of medical care.

EVENT COMPONENTS:

1. Provide EFR initial response to an incident.
2. Provide EFR Rescue/Extrication services to injured personnel from aircraft/facilities.
3. Establish triage area.
4. Control the spread of fires/other hazards to life.
5. Coordinate EFR efforts with medical personnel.
6. Provide support for casualty collection.
7. Provide support for casualty treatment.
8. Provide support for temporary casualty holding.
9. Provide support for casualty evacuation.

REFERENCES:

1. MCTP 3-20B Aviation Ground Support
2. MCTP 3-40A Health Service Support Operations
3. NAVAIR 00-80R-14 NATOPS U.S. Navy Aircraft Emergency Rescue Information

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: AOPS-OPS-6001

INTERNAL SUPPORTING EVENTS:

AOPS-EFR-5001	HQCO-COMM-5001	HQCO-COMM-5002
HQCO-COMM-5002	HQCO-MED-5001	HQCO-MED-5002
HQCO-MED-5002		

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17951 Fire Fighting And Rescue Training Area

EQUIPMENT: EFR, medical, motor transportation vehicles, and utilities

UNITS/PERSONNEL: Trained health service personnel and Certified EFR personnel

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Event requires live/simulated training environment with role players to conduct.

AOPS-FUEL-5001: Conduct Aviation refueling

SUPPORTED MET(S):

MCT 1.12.5.1.1	MCT 1.12.5.1.2	MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: The MWSS Bulk Fuel Marines use the Tactical Airfield Fuel Dispensing System (TAFDS) which is an aviation-specific system exclusively designed for aircraft. Each TAFDS consists of six 20,000-gallon collapsible tanks and four 50,000 gallon tanks which can store up to 320,000 gallons of fuel. The MWSS possesses three TAFDS and can store the equivalent of 960,000 gallons of fuel at a time, which allows simultaneous refueling of 12 aircraft from 12 refueling points. The Helicopter Expedient Refueling System (HERS) is designed for refueling rotary aircraft in support of operations in remote locations. Because of its flexibility and mobility, it is ideally suited to support FARP operations. The HERS employs 500-gallon collapsible fuel drums, 3,000 gallon tanks; skid mounted 150 GPM pumps and filter-separators. The HERS can be rapidly installed and configured to meet the specific tactical situation and requirement. Experienced personnel can establish a HERS site within two hours.

CONDITION: Given a mission order, location of operation, requirements, and necessary personnel and equipment.

STANDARD: At no more than three locations, up to 12 total refueling points.

EVENT COMPONENTS:
1. Review mission.
2. Determine bulk fuel equipment and embarkation requirements.
3. Task organize personnel and equipment.
4. Coordinate security requirements, as required.
5. Establish Bulk Fuel site safety and environmental plan.
6. Coordinate and receive fuel.
7. Account for receipt, storage, and distribution of fuel and submit reports, as required.
8. Position assets in accordance with references.
9. Conduct quality assurance for fuel testing.
10. Conduct emergency and immediate actions, as necessary.
11. Conduct re-deployment of assets.

REFERENCES:
1. MCTP 3-20B Aviation Ground Support
2. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
3. TB 10-5430-253-13 Technical Bulletin for Collapsible Fabric Fuel Tanks
4. TM 11275-15/3_ Principal Technical Characteristics of U.S. Marine Corps Engineer Equipment
5. TM 3835-OI/1A Marine Corps Tactical Fuel Systems
6. TM 5-6630-218-10 Aviation Fuel, Contaminant, Test Kit

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
AOPS-OPS-6001 AOPS-PLAN-6001

INTERNAL SUPPORTING EVENTS:
ENGR-EQIP-5001 ENGR-HORZ-5001 ENGR-UTIL-5001
HQCO-COMM-5001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17413 Field Training Area
Facility Code 17918 Road/Airfield Construction Training Site
Facility Code 17933 POL Training Area

EQUIPMENT: Bulk Fuel equipment, MALS support equipment, MACG support equipment.

AOPS-FUEL-5002: Construct bulk fuel site

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Construct and set up fuel storage and distribution systems to accommodate multiple fuel requirements in support of the ACE.

CONDITION: Provided a bulk fuel plan with a systems layout, a location, task organized personnel, and engineer equipment.

STANDARD: In accordance with the commander's intent and to support ACEs bulk fuel consumption rates.

EVENT COMPONENTS:
1. Review mission.
2. Determine construction criteria.
3. Conduct site 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 system components.
10. Conduct dust abatement, as required.
11. Construct access road(s), as required.
12. Submit required reports.

REFERENCES:
1. AR 200-1 Environmental Protection and Enhancement
2. MCO P5090.2_ Environmental Compliance and Protection Manual
3. MCRP 3-34.3 Engineer Reconnaissance
4. MCRP 3-40B.5 Petroleum and Water Logistics Operations
5. MCRP 3-40D.6 Construction Project Management
6. MCRP 3-40D.9 Earthmoving Operations
7. MCRP 4-11B Environmental Considerations
8. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
9. NAVAIR 00-80T-115 Expeditionary Airfield NATOPS Manual
10. TB 10-5430-253-13 Technical Bulletin for Collapsible Fabric Fuel Tanks
11. TM 3835-OI/1A Marine Corps Tactical Fuel Systems

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
ENGR-OPS-6001 ENGR-PLAN-6001

INTERNAL SUPPORTING EVENTS:
ENGR-EQIP-4001 ENGR-HORZ-4001 ENGR-RECN-4001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17413 Field Training Area
Facility Code 17933 POL Training Area

EQUIPMENT: Construction Equipment (CE), Material Handling Equipment (MHE), utilities equipment, bulk fuel equipment

AOPS-FUEL-5003: Conduct tactical bulk fuel operations

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Conduct tactical bulk fuel operations in support of the ACE.

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, as required.
7. Exercise quality assurance, as required.
8. Coordinate fuel distribution.
9. Dispense fuel, as required.
10. Record usage data.
11. Submit reports, as required.

REFERENCES:
1. FM 10-68 Aircraft Refueling
2. FM 10-69 Petroleum Supply Point Equipment and Operations
3. MCRP 3-40B.5 Petroleum and Water Logistics Operations
4. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
5. TB 10-5430-253-13 Technical Bulletin for Collapsible Fabric Fuel Tanks
6. TM 3835-OI/1A Marine Corps Tactical Fuel Systems
7. TM 4-43.31 Petroleum Laboratory Testing and Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: AOPS-OPS-6001

INTERNAL SUPPORTING EVENTS:
AOPS-FUEL-4001 ENGR-EQIP-4001 ENGR-HORZ-4001
MTCO-OPS-3002

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17933 POL Training Area

EQUIPMENT: Material Handling Equipment (MHE), bulk fuel equipment, utilities equipment, Construction Equipment (CE), Motor Transport equipment, tactical communications equipment

ENGR-CMOB-5001: Create an obstacle group (S/L)

SUPPORTED MET(S):
MCT 1.4.1.5 MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: Construct or establish 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 support of the obstacle plan.

EVENT COMPONENTS:
1. Identify enemy engineer capability.
2. Identify the commander's obstacle priorities.
3. Coordinate with supported unit for specific obstacle placement and observation.
4. Develop/review obstacle plan.
5. Coordinate observation and reporting for decision/triggering point(s).
6. Analyze engagement areas, battle positions, and weapons location.
7. Determine possible obstacle locations and types.
8. Identify the necessary resources.
9. Determine the bill of materials.
10. Determine work sequence.
11. Emplace reserve/situational obstacles, as required.
12. Emplace explosive obstacle(s), as required.
13. Create non-explosive obstacle(s), as required.
14. Conduct turnover of obstacles to supported unit.
15. Close lanes, as required.
16. Complete administrative actions (records, reports and forms).
17. Maintain obstacles, as required.

REFERENCES:
1. JP 3-15 Barriers, Obstacles, and Mine Warfare for Joint Operations
2. MCRP 3-34.1 Engineer Field Data
3. MCRP 3-34.3 Engineer Reconnaissance
4. MCRP 3-34.4 Engineer Forms and Reports
5. MCTP 3-34B Combined Arms Countermobility Operations
6. MCWP 3-34 Engineering Operations
7. NAVSEA SW060-AA-MMA-010 Volume 1 Technical Manual Demolition Materials

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
ENGR-CMOB-6001 MWSS-ASO-6001

INTERNAL SUPPORTING EVENTS:

ENGR-CMOB-4001 ENGR-CMOB-4002 ENGR-EQIP-5001
ENGR-RECN-5001

SUPPORT REQUIREMENTS:

SIMULATION EVALUATION:

SIMULATED	SUITABILITY	SIMULATOR	UNIT OF MEASURE	HOURS	PM
Yes	S/L	DVTE	Marine Hours	24	Y

NOTES: 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. Simulation hours are recommendations based on input from engineer SMEs during the Simulation Assessment Working Group (SAWG) in Sept 2015. Assigned hours are not intended to be prescriptive or restrictive. Units are encouraged to catalog actual simulation hours conducted during training in order to update the simulation appendix during the next T&R Manual review.

ORDNANCE:

DODIC	QUANTITY
G940 Grenade, Hand Green Smoke M18	14 grenades per Platoon
G945 Grenade, Hand Yellow Smoke M18	14 grenades per Platoon
G982 Grenade, Hand Practice Smoke TA M83	14 grenades per Platoon
J007 Mine, Antipersonnel M18A1 with Non-Elec Mini Shock Tube	7 charges per Platoon
K139 Mine, Antipersonnel Practice M68 with Accessories	7 charges per Platoon
K143 Mine, AP M18A1 w/Accessories Electric Initiation	7 charges per Platoon
L495 Flare, Surface Trip M49/A1 Series	14 flares per Platoon
L594 Simulator, Projectile Ground Burst M115A2	14 Simulator per Platoon
L598 Simulator, Explosive Booby Trap Flash M117	14 Simulator per Platoon
M023 Charge, Demolition Block M112 1-1/4 pound C-4	35 charges per Platoon
M032 Charge, Demolition Block TNT 1-Pound	77 charges per Platoon
M039 Charge, Demolition Cratering 40-Pound	7 charges per Platoon
M130 Cap, Blasting Electric M6	105 blasting caps per Platoon
M131 Cap, Blasting Non-Electric M7	105 blasting caps per Platoon
M420 Charge, Demolition Shaped M2 Series 15-Pound	7 charges per Platoon
M421 Charge, Demolition Shaped M3 Series 40-Pound	7 charges per Platoon
M456 Cord, Detonating PETN Type I Class E	2415 FT per Platoon
M591 Dynamite, Military M1	245 charges per Platoon
M670 Fuse, Blasting Time M700	1050 FT per Platoon
ML03 Firing Device, Demolition Multi-Purpose M142	28 detonators per Platoon
MN08 Igniter, Time Blasting Fuse with Shock Tube Capability M81	119 igniters per Platoon

ORDNANCE NOTES:
RANGE/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: Material Handling Equipment, combat engineer equipment, construction equipment, motor transport, field radio operator, and communication assets

UNITS/PERSONNEL: Officer in Charge, Range Safety Officer, corpsman, engineer equipment operator and motor transport operator

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ENGR-DEMO-5001: Conduct demolition operations

SUPPORTED MET(S):
MCT 1.4.1.5 MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: Employ Class V supplies to reduce/destroy obstacles (explosive and non-explosive) or to create obstacles such as craters, ditches, in support of the ACE.

CONDITION: Given a mission, personnel, equipment and references.

STANDARD: To achieve desired effects in accordance with planned shot card.

EVENT COMPONENTS:
1. Receive demolition concept of operations.
2. Conduct engineer reconnaissance.
3. Create shot plan.
4. Calculate Net Explosive Weight (NEW) and standoff distances, as required.
5. Destroy captured arms and ammunition, as required.
6. Employ demolitions in support of mobility operations, as required.
7. Employ demolitions in support of survivability position construction, as required.
8. Employ demolitions in support of countermobility operations, as required.
9. Complete administrative actions (records, reports and forms).

REFERENCES:
1. MCRP 3-34.1 Engineer Field Data
2. MCRP 3-34.2 Explosives and Demolitions
3. MCRP 3-34.3 Engineer Reconnaissance
4. MCTP 3-34A Combined Arms Mobility
5. MCTP 3-34B Combined Arms Countermobility Operations
6. MCTP 3-34C Survivability Operations
7. NAVSEA SW060-AA-MMA-010 Volume 1 Technical Manual Demolition Materials

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
AOPS-EAF-5001 ENGR-OPS-6001

INTERNAL SUPPORTING EVENTS:
ENGR-MOBL-4004 ENGR-MOBL-4005 ENGR-MOBL-5003
ENGR-SURV-4006

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	QUANTITY
A075 Cartridge, 5.56mm Blank M200 Linked	2800 rounds per Platoon
A080 Cartridge, 5.56mm Blank M200 Single Round	3150 rounds per Platoon
A111 Cartridge, 7.62mm Blank M82 Linked	1400 rounds per Platoon
AX14 Primer, Percussion 12 Gauge W209	35 primers per Platoon
G940 Grenade, Hand Green Smoke M18	7 grenades per Platoon
G945 Grenade, Hand Yellow Smoke M18	7 grenades per Platoon
G982 Grenade, Hand Practice Smoke TA M83	7 grenades per Platoon
L312 Signal, Illumination Ground White Star Parachute M127A1	7 flares per Platoon
M023 Charge, Demolition Block M112 1-1/4 pound C-4	35 charges per Platoon
M028 Demolition Kit, Bangalore Torpedo M1A2	7 per Platoon
M032 Charge, Demolition Block TNT 1-Pound	70 charges per Platoon
M039 Charge, Demolition Cratering 40-Pound	7 charges per Platoon
M130 Cap, Blasting Electric M6	147 blasting caps per Platoon
M131 Cap, Blasting Non-Electric M7	168 blasting caps per Platoon
M456 Cord, Detonating PETN Type I Class E	2975 FT per Platoon
M591 Dynamite, Military M1	245 charges per Platoon
M670 Fuse, Blasting Time M700	1771 FT per Platoon
M757 Charge, Assembly Demolition M183 Comp C-4	21 charges per Platoon
ML03 Firing Device, Demolition Multi-Purpose M142	35 detonators per Platoon
ML47 Cap, Blasting Non-Electric M11 with 30ft Shock Tube	7 blasting caps per Platoon
MM30 Charge, Flexible 20 Gram PETN MK140 Mod 0	28 charges per Platoon
MM45. Chg. Demo Flex Linear Shaped 125 Grains per foot.	7 charges per Platoon
MM46 Charge, Demolition Flexible Linear Shaped 225 Grains/Foot	7 charges per Platoon
MM47 Charge, Demolition Flexible Linear Shaped 400 Grains/Foot	7 charges per Platoon
MM48 Charge, Demolition Flexible Linear Shaped 600 Grains/Foot	7 charges per Platoon
MN08 Igniter, Time Blasting Fuse with Shock Tube Capability M81	224 igniters per Platoon
MN14 Firing Device, Dual Mode MK54	7 igniters per Platoon
MN52 Detonator, Percussion, Non-Electric MK154 Mod 0	28 detonators per Platoon
MN88 Cap, Blasting, Non-Electric, M21 w/ 500 ft. Minitube	28 igniters per Platoon

MN90 Cap, Blasting, Non-Electric, M23 w/ 1000 ft. Minitube	28 igniters per Platoon

ORDNANCE NOTES:

RANGE/TRAINING AREA:

Facility Code 17830 Light Demolition Range

EQUIPMENT:
- Material Handling Equipment (MHE)
- Combat engineer equipment (Tools, sets, chests and kits)
- Construction Equipment (CE)
- Motor Transport
- Communication assets

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman
- Engineer equipment operators
- Motor transport operators
- Communicator

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Prior to conducting lift requirement ensure ground guides demonstrate proper use of standard hand and arm signals to operator.

ENGR-EQIP-5001: Provide engineer equipment support

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5
MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: The Heavy Equipment Platoon, Engineer Company, maintains the personnel and equipment necessary to repair, improve, and maintain existing unimproved or gravel roads within the ACE operating area; construct and maintain expedient roads; and meet the MHE needs of the ACE during deployment, buildup, and support operations. Additionally, the platoon can construct and maintain unsurfaced assault landing zones as well as earth preparation for expeditionary airfield construction. The platoon also has the equipment necessary to support BRAAT operations and ADR.

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

STANDARD: To provide required engineer support in accordance with unit SOPs, concept of operations and ACE requirements.

EVENT COMPONENTS:

1. Review equipment support plan.
2. Conduct site survey, as required.
3. Determine support requirements and location(s).
4. Determine resources.
5. Determine schedule of work.
6. Determine task organization.
7. Coordinate with supported unit (location, requirements, security, ground guides, etc.).
8. Coordinate with supporting units (logistics, etc).
9. Manage engineer equipment operations.
10. Conduct earthmoving operations, as required.
11. Conduct material handling operations, as required.
12. Conduct crane operations, as required.
13. Conduct runway sweeper operations, as required.
14. Conduct soil stabilization operations, as required.
15. Conduct horizontal construction, as required.
16. Recover engineer equipment as required.
17. Conduct maintenance, as required.
18. Submit required reports.

REFERENCES:

1. MCRP 3-34.1 Engineer Field Data
2. MCRP 3-34.4 Engineer Forms and Reports
3. MCRP 3-40D.1 Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Road Design
4. MCRP 3-40D.2 Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Airfield and Heliport Design
5. MCRP 3-40D.6 Construction Project Management
6. MCRP 3-40D.9 Earthmoving Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

ENGR-CMOB-6001	ENGR-OPS-6001

INTERNAL SUPPORTING EVENTS:

ENGR-CMOB-4002	ENGR-EQIP-4001	ENGR-HORZ-4001
ENGR-MANT-5001	ENGR-MOBL-4001	ENGR-MOBL-4002
ENGR-MOBL-4003	ENGR-SURV-4002	ENGR-SURV-4005
ENGR-SURV-4007		

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17918 Road/Airfield Construction Training Site
Facility Code 17931 Medium/Heavy Equipment Training Area

EQUIPMENT: Engineer equipment, motor transport equipment, utilities equipment

UNITS/PERSONNEL:

- Licensed operators
- Engineer equipment maintainers (1341)
- Utilities equipment operators (1141, 1161, 1171)
- Utilities equipment maintainers (1142)

- Communicators
- Motor Transport Operators

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Prior to conducting lift requirements, ensure ground guides demonstrate proper use of standard hand and arm signals to the operator.

ENGR-HORZ-5001: Conduct horizontal construction

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5
MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: Horizontal construction consists of earthmoving efforts to bring about a desired design of an earth foundation in support of ACE operations. It can involve cut and fill operations, the emplacement of drainage to create a level foundation, or the moving and shaping of earth to create berms. It involves the employment of engineer construction and material handling equipment and operators. It can set the stage for follow-on vertical construction if structures are to be built on a foundation, or remain as a stand-alone project.

CONDITION: Given a mission, task organized equipment/personnel, design specifications, construction materials and references.

STANDARD: To meet the requirements listed in the design specifications.

EVENT COMPONENTS:
1. Review mission requirements.
2. Conduct site survey.
3. Coordinate with supporting unit.
4. Plan horizontal construction.
5. Conduct engineer reconnaissance.
6. Conduct survey, as required.
7. Coordinate horizontal construction.
8. Conduct site preparation.
9. Conduct soil stabilization, as required.
10. Employ engineer equipment (material handling, construction and support) assets, as required.
11. Construct combat roads and trails, as required.
12. Construct Landing Zone (LZ), as required.
13. Conduct quality control.
14. Turnover project to supported unit.
15. Coordinate retrograde of personnel and equipment.
16. Complete administrative actions (records, reports and forms).

REFERENCES:
1. MCRP 3-34.1 Engineer Field Data

2. MCRP 3-34.3 Engineer Reconnaissance
3. MCRP 3-40D.1 Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Road Design
4. MCRP 3-40D.2 Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Airfield and Heliport Design
5. MCRP 3-40D.4 Concrete and Masonry
6. MCRP 3-40D.6 Construction Project Management
7. MCRP 3-40D.7 Military Soils Engineering
8. MCRP 3-40D.9 Earthmoving Operations
9. MCTP 3-34A Combined Arms Mobility
10. MCTP 3-34C Survivability Operations
11. MCTP 3-40D General Engineering
12. NAVAIR 00-80T-115 Expeditionary Airfield NATOPS Manual

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

AOPS-OPS-6001	ENGR-MOBL-5002	ENGR-OPS-6001
ENGR-PLAN-6001		

INTERNAL SUPPORTING EVENTS:

ENGR-EQIP-4001	ENGR-HORZ-4001	ENGR-MANT-5001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

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

EQUIPMENT:
- Engineer Construction and Material Handling equipment
- Combat engineer sets
- Motor transport equipment
- Communication equipment

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman
- Engineer equipment operators
- Motor transport operators
- Communicators

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Prior to conducting lift requirements, ensure ground guides demonstrate proper use of standard hand and arm signals to the operator.

ENGR-MANT-5001: Maintain engineer equipment

SUPPORTED MET(S):

MCT 1.12.5.1.1	MCT 1.12.5.1.2	MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: The MWSS Engineer Company, Maintenance Platoon possesses an organic capability to conduct the organizational category of field-level maintenance.

CONDITION: Given equipment, tools, repair parts, supplies, personnel, Automated Information Systems (AIS) and references.

STANDARD: To sustain Mission Essential Equipment (MEE) in an operational status at or above 80%.

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 Material Handling Equipment (MHE), as required.
8. Maintain Construction Equipment (CE), as required.
9. Maintain engineer support equipment, as required.
10. Submit required reports.

REFERENCES:
1. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
2. MCO 4790.18_ Corrosion Prevention and Control (CPAC) Program
3. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
4. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
5. MCO 5100.29_ Marine Corps Safety Program
6. MCO P4733.1_ Marine Corps TMDE Calibration and Maintenance Program
7. MCRP 3-40B.5 Petroleum and Water Logistics Operations
8. MCTP 3-40B Tactical-Level Logistics
9. MCTP 3-40E 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
12. UM 4000-125 Retail Supply and Maintenance Execution Procedures
13. Unit SOP Unit's Standing Operating Procedures

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-OPS-6001

INTERNAL SUPPORTING EVENTS: ENGR-MANT-4001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17931 Medium/Heavy Equipment Training Area

EQUIPMENT: Tool/Sets/Chests/Kits for maintaining: Engineer, utilities and bulk fuel equipment

MATERIAL:
- POL
- Hazmat

UNITS/PERSONNEL:
- Licensed operators
- Engineer equipment maintainers (1341)
- Utilities equipment operators (1141, 1161, 1171)
- Utilities equipment maintainers (1142)
- Metal worker (1316)
- Bulk Fuel Specialist (1391)

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: 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. Utilize Risk Management.

ENGR-MOBL-5001: Conduct Airfield Damage Repair (ADR)

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.4.1.5

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

READINESS-CODED: NO

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. May be conducted exclusively or as part of BRAAT operations.

CONDITION: Given a mission, commander's intent, a damaged airfield or landing zone, personnel, equipment, and references.

STANDARD: To restore the air field/landing zone operating surfaces to minimum operational capability.

EVENT COMPONENTS:
1. Identify airfield damage repair requirements.
2. Coordinate airfield damage repair.
3. Conduct engineer reconnaissance/damage assessment of airfield operating surfaces.
4. Task organize personnel and equipment.
5. Receive minimum operating strip coordinates.
6. Receive EOD operations information.
7. Conduct crater repair as required.
8. Conduct spall repair as required.
9. Conduct foreign object debris clearance as required.
10. Submit required reports.

REFERENCES:
1. MCRP 10-10.1 Countering Explosive Hazards
2. MCRP 10-10D.2 MTTPS FOR EXPLOSIVE ORDNANCE DISPOSAL (EOD)
3. MCRP 3-34.1 Engineer Field Data
4. MCRP 3-34.2 Explosives and Demolitions
5. MCRP 3-34.3 Engineer Reconnaissance
6. MCRP 3-34.4 Engineer Forms and Reports
7. MCRP 3-40D.2 Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Airfield and Heliport Design
8. MCRP 3-40D.9 Earthmoving Operations
9. MCTP 3-20B Aviation Ground Support
10. MCTP 3-34A Combined Arms Mobility
11. UFC 3-270-07 Airfield Damage Repair

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
AOPS-EAF-5001 ENGR-OPS-6001

INTERNAL SUPPORTING EVENTS:
AOPS-EOD-4004 ENGR-EQIP-4001 ENGR-MOBL-4002
ENGR-MOBL-4003

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17918 Road/Airfield Construction Training Site

EQUIPMENT: Equipment for Combat Engineers, MHE, and EOD

ENGR-MOBL-5002: Construct Landing Zones (LZ)

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Conduct construction of 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 ACE operations.

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

STANDARD: To create, repair, and maintain landing zones that meet landing zone requirements listed in the design specifications per type, model, series, and number of aircraft.

EVENT COMPONENTS:

1. Task organize.
2. Conduct site survey.
3. Develop production estimation.
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, as required.
10. Submit required reports.

REFERENCES:
1. MCRP 3-34.1 Engineer Field Data
2. MCRP 3-34.2 Explosives and Demolitions
3. MCRP 3-34.3 Engineer Reconnaissance
4. MCRP 3-34.4 Engineer Forms and Reports
5. MCRP 3-40D.1 Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Road Design
6. MCRP 3-40D.2 Planning and Design of Roads, Airfields, and Heliport Design
7. MCTP 3-20B Aviation Ground Support
8. MCTP 3-34A Combined Arms Mobility
9. NAVAIR 00-80T-115 Expeditionary Airfield NATOPS Manual
10. UFC 3-270-07 Airfield Damage Repair

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
AOPS-EAF-5001 ENGR-OPS-6001

INTERNAL SUPPORTING EVENTS:
AOPS-EAF-4005 ENGR-HORZ-4001 ENGR-RECN-4001
ENGR-RECN-4004

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

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

EQUIPMENT: Construction Equipment (CE), Material Handling Equipment (MHE), utilities equipment, combat engineer kits, motor transport assets and communications equipment.

UNITS/PERSONNEL: Engineer equipment operators, utilities personnel, combat engineers, Motor Transport operators, and field radio operator.

ENGR-MOBL-5003: Conduct area clearance operations

SUPPORTED MET(S): MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Conduct area clearance operations to eliminate obstacle(s) [explosive or non-explosive] to provide a secure environment in support of ACE operations.

CONDITION: Given an operations order, resources, current intelligence report and references.

STANDARD: To eliminate all obstacle(s) [explosive or non-explosive] in an area to provide a cleared environment for military operations.

EVENT COMPONENTS:
1. Analyze mission.
2. Analyze intelligence products.
3. Conduct site survey, as required.
4. Determine resources required.
5. Coordinate necessary support.
6. Task organize resources.
7. Issue the order.
8. Transport operation resources (equipment, personnel and classes of supply) to construction site.
9. Visually assess the terrain.
10. Sweep area.
11. Identify and confirm hazards.
12. Reduce explosive or non-explosive hazards.
13. Coordinate with Explosive Ordnance Disposal (EOD), as required.
14. Verify reduction of hazards.
15. Mark cleared area, as required.
16. Submit required reports.
17. Retrograde, as required.

REFERENCES:
1. MCRP 10-10.1 Countering Explosive Hazards
2. MCRP 3-34.1 Engineer Field Data
3. MCRP 3-34.2 Explosives and Demolitions
4. MCRP 3-34.3 Engineer Reconnaissance
5. MCRP 3-34.4 Engineer Forms and Reports
6. MCTP 3-34A Combined Arms Mobility

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
AOPS-EAF-5001 ENGR-OPS-6001

INTERNAL SUPPORTING EVENTS:
AOPS-EAF-4004 ENGR-MOBL-4004 ENGR-MOBL-4005
ENGR-RECN-4002 ENGR-RECN-4004

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:
- Mine detectors
- Demolitions kits
- Combat engineer equipment (Tools, sets, chests and kits)
- Material Handling Equipment (MHE)
- Construction Equipment (CE)
- Motor Transport
- Communication assets

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Combat engineer personnel
- Corpsman
- Engineer equipment operators
- Motor transport operators
- Communicators - EOD

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS:
The recommended types and quantities of ammunition, explosive, pyrotechnics and munitions can be found on ENGR-DEMO-5001.
Prior to conducting lift requirement ensure ground guides demonstrate proper use of standard hand and arm signals to operator.

ENGR-RECN-5001: Conduct engineer reconnaissance (S/L)

SUPPORTED MET(S): MCT 1.4.1.5

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

READINESS-CODED: NO

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

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

STANDARD: To gather all relevant engineer data, and produce reconnaissance report in accordance with the mission requirements.

EVENT COMPONENTS:
1. Review mission.
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 (focused on bypass or breach of obstacles), as required.
6. Conduct area reconnaissance (focused on explosive hazards, such as mines and unexploded explosive ordnance), requiring area clearance operations, as required.
7. Conduct route reconnaissance (focused on establishing an expedient road or trail), as required.
8. Conduct reconnaissance of planned or existing sites and facilities supporting forward aviation operations, as required.
9. Conduct area reconnaissance (focused on establishing vehicle fighting positions and/or protective works), as required.
10. Conduct reconnaissance in complex terrain, as required.
11. Submit required reports.

REFERENCES:
1. MCRP 3-34.1 Engineer Field Data
2. MCRP 3-34.3 Engineer Reconnaissance
3. MCRP 3-34.4 Engineer Forms and Reports

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
AOPS-EAF-5001 ENGR-OPS-6001

INTERNAL SUPPORTING EVENTS:
ENGR-RECN-4001 ENGR-RECN-4002 ENGR-RECN-4003 ENGR-RECN-4004

SUPPORT REQUIREMENTS:

SIMULATION EVALUATION:

SIMULATED	SUITABILITY	SIMULATOR	UNIT OF MEASURE	HOURS	PM
Yes	S/L	DVTE	Marine Hours	24	Y

RANGE/TRAINING AREA:

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

EQUIPMENT:
- Combat engineer equipment
- Motor transport equipment
- Communication assets

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman
- Motor transport operators
- Communicators

MISCELLANEOUS:

SIMULATION: Simulation hours are recommendations based on input from engineer SMEs during the Simulation Assessment Working Group (SAWG) in Sept 2015. Assigned hours are not intended to be prescriptive or restrictive. Units are encouraged to catalog actual simulation hours conducted during training in order to update the simulation appendix during the next T&R Manual review.

ENGR-SURV-5001: Construct survivability positions

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5
MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

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: Given an operations order, intelligence reports, materials, survivability plan, personnel, equipment, and references.

STANDARD: That meets the mission requirements in accordance with the concept of operations.

EVENT COMPONENTS:
1. Determine enemy threat weapons capability.
2. Plan survivability construction.
3. Analyze engagement areas, battle positions, and weapons location.
4. Design survivability positions.
5. Develop bill of materials.
6. Conduct engineer reconnaissance and site survey.
7. Coordinate with supported unit for specific position placement and requirements.
8. Coordinate resources for project.
9. Transport resources (equipment, personnel and classes of supply) to site.
10. Conduct site preparation.
11. Harden existing structure(s), as required.
12. Emplace barriers, as required.
13. Provide Subject Matter Expertise (SME) input to Anti-Terrorism/Force Protection (AT/FP) plan, as required.
14. Construct field fortification, as required.
15. Construct Entry Control Point (ECP), as required.
16. Construct earth filled barrier/structure, as required.
17. Construct individual fighting positions, as required.
18. Construct vehicle fighting positions, as required.
19. Construct vehicle survivability positions, as required.
20. Construct crew-served weapon positions, as required.

21. Construct overhead cover, as required.
22. Construct shelter/bunker, as required.
23. Construct berms, as required.
24. Conduct earthmoving operations, as required.
25. Construct pre-detonation screen, as required.
26. Construct trench, as required.
27. Provide electrical power, as required.
28. Submit required reports.

REFERENCES:
1. MCRP 12-10B.1 Military Operations on Urbanized Terrain
2. MCRP 3-34.1 Engineer Field Data
3. MCRP 3-34.2 Explosives and Demolitions
4. MCRP 3-34.3 Engineer Reconnaissance
5. MCRP 3-40D.11 Theater of Operations Electrical Systems
6. MCTP 3-34B Combined Arms Countermobility Operations
7. MCTP 3-34C Survivability Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

ENGR-OPS-6001	MWSS-ASO-6001

EXTERNAL SUPPORTED EVENTS:

ENGR-EQIP-3003	ENGR-RECN-5001	ENGR-SURV-4001
ENGR-SURV-4002	ENGR-SURV-4003	ENGR-SURV-4004
ENGR-SURV-4005	ENGR-SURV-4007	MTCO-OPS-5001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17420 Maneuver/Training Area, Heavy Forces

EQUIPMENT:
- Material Handling Equipment (MHE)
- Combat engineer equipment (Tools, sets, chests and kits)
- Construction Equipment (CE)
- Utilities equipment
- Motor Transport
- Communication assets

MATERIAL:
- Class IV
- Barriers
- HESCO
- POLs

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman
- Engineer equipment operators
- Utilities personnel
- Motor transport operators
- Communicators

ENGR-SURV-5002: Harden existing structure(s)

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5
MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: To harden existing structures in order to reduce the vulnerability of personnel, equipment, weapons, and supplies to enemy actions and as a means to enhance force protection.

CONDITION: Given an operations order, intelligence reports, materials, survivability plan, personnel and equipment, and references.

STANDARD: To meet the mission requirements and support the concept of operations.

EVENT COMPONENTS:
1. Review mission.
2. Determine enemy threat weapons capability.
3. Review engineer reconnaissance and survey reports.
4. Coordinate with supported unit for specific position requirements.
5. Design plans for hardening building/structure.
6. Develop bill of materials.
7. Coordinate resources for project.
8. Transport resources (equipment, personnel and classes of supply) to site.
9. Conduct site preparation.
10. Shore walls/floors/roofs, as required.
11. Remove/reinforce windows, as required.
12. Compartmentalize interior of structure, as required.
13. Emplace barriers, as required.
14. Construct earth filled barrier/structure, as required.
15. Conduct earthmoving operations, as required.
16. Construct overhead cover, as required.
17. Construct shelter/bunker, as required.
18. Construct pre-detonation screen, as required.
19. Wire position for electricity, as required.
20. Submit required reports.

REFERENCES:
1. MCRP 3-34.1 Engineer Field Data
2. MCRP 3-34.3 Engineer Reconnaissance
3. MCRP 3-34.4 Engineer Forms and Reports
4. MCRP 3-40D.3 Carpentry
5. MCRP 3-40D.4 Concrete and Masonry
6. MCRP 3-40D.6 Construction Project Management
7. MCRP 3-40D.9 Earthmoving Operations
8. MCTP 3-34C Survivability Operations
9. MCTP 3-34D SEEBEE OPERATIONS IN THE MAGTF

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
ENGR-OPS-6001 MWSS-ASO-6001

INTERNAL SUPPORTING EVENTS:
ENGR-EQIP-4001 ENGR-SURV-4001 ENGR-SURV-4005
MTCO-OPS-5001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17420 Maneuver/Training Area, Heavy Forces

EQUIPMENT:
- Material Handling Equipment (MHE)
- Combat engineer equipment (Tools, sets, chests and kits)
- Construction Equipment (CE)
- Utilities equipment
- Motor Transport
- Communication assets

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman
- Engineer equipment operators
- Utilities personnel
- Motor transport operators
- Communicators

ENGR-UTIL-5001: Provide utilities support

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: Provide electrical power generation/distribution to include area illumination and interior electrical wiring; potable and non-potable water support production, storage, and distribution; interior plumbing; hygiene and field sanitation services; refrigeration/environmental control equipment support; utilities maintenance operations ISO ACE operations.

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

STANDARD: To provide utilities support per mission requirements and concept of operations.

EVENT COMPONENTS:

1. Coordinate supported unit requirements.
2. Establish utilities plan.
3. Identify embark requirements.
4. Establish utilities site(s).
5. Provide electrical support, as required.
6. Provide interior wiring, as required.
7. Provide water production/storage/distribution, as required.
8. Provide refrigeration and Environmental Control Unit (ECU) equipment support, as required.
9. Provide area illumination, as required.
10. Provide hygiene services, as required.
11. Maintain utilities equipment.
12. Recover utilities equipment, as required.
13. Submit required reports.

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. 40 CFR 82 Title 40, Code of Federal Regulations, Part 82 (Protection of Stratospheric Ozone)
5. 42 USC 85 VI 7671 Title 42, United States Code, Chapter 85, Subchapter VI, Section 7671 (Ozone Protection)
6. 49 CFR Hazardous Materials Regulations
7. MCRP 3-34.4 Engineer Forms and Reports
8. MCRP 3-40A.4 Field Hygiene and Sanitation
9. MCRP 3-40B.2 Environmental Considerations
10. MCRP 3-40D.13 Base Camps
11. MCRP 3-40D.14 Water Support Operations
12. MCTP 3-40B Tactical-Level Logistics
13. MCTP 3-40E Maintenance Operations
14. MCWP 3-34 Engineering Operations
15. NEC (NFPA 70) National Electrical Code - by National Fire Protection Association

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-OPS-6001

INTERNAL SUPPORTING EVENTS:
ENGR-UTIL-4001 ENGR-UTIL-4002 ENGR-UTIL-4003

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT:
- Utilities equipment
- Material Handling Equipment (MHE)

- Motor transport equipment
- HAZMAT handling equipment and tools

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Utilities personnel
- Corpsman
- Motor transport operators
- Communicators

ENGR-VERT-5001: Conduct vertical construction

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: To conduct vertical construction in order to build or provide improvements to existing structures or construction of facilities for use by the ACE.

CONDITION: Given an operations order, equipment, personnel, design specifications, construction materials, and appropriate references.

STANDARD: To build and/or improve facilities that meet the requirements listed in the design specifications.

EVENT COMPONENTS:
1. Review design specifications.
2. Conduct survey, as required.
3. Plan vertical construction.
4. Create bill of materials.
5. Coordinate resources for project.
6. Transport resources (equipment, personnel and classes of supply) to construction site.
7. Conduct site preparation.
8. Repair facility, as required.
9. Erect prefabricated structure, as required.
10. Construct wood frame structure, as required.
11. Construct timber structure, as required.
12. Construct expedient drainage structure, as required.
13. Wire structure for electricity, as required.
14. Plumb structure, as required.
15. Submit required reports.

REFERENCES:
1. MCRP 3-34.1 Engineer Field Data
2. MCRP 3-40A.4 Field Hygiene and Sanitation
3. MCRP 3-40D.1 Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Road Design
4. MCRP 3-40D.11 Theater of Operations Electrical Systems

5. MCRP 3-40D.12 Construction Estimating
6. MCRP 3-40D.13 Base Camps
7. MCRP 3-40D.2 Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Airfield and Heliport Design
8. MCRP 3-40D.3 Carpentry
9. MCRP 3-40D.4 Concrete and Masonry
10. MCRP 3-40D.5 Plumbing, Pipe Fitting, and Sewerage
11. MCRP 3-40D.6 Construction Project Management
12. MCRP 3-40D.9 Earthmoving Operations
13. MCTP 3-40B Tactical-Level Logistics

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-OPS-6001

INTERNAL SUPPORTING EVENTS:

ENGR-RECN-4001	ENGR-UTIL-5001	ENGR-VERT-4001
ENGR-VERT-4002	ENGR-VERT-4003	ENGR-VERT-4004
ENGR-VERT-4005	ENGR-VERT-4006	ENGR-VERT-4007
MTCO-OPS-5001		

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17420 Maneuver/Training Area, Heavy Forces

EQUIPMENT:
- Survey equipment
- Material Handling Equipment (MHE)
- Combat engineer equipment (Tools, sets, chests and kits)
- Construction Equipment (CE)
- Utilities equipment
- Motor Transport
- Communication assets

MATERIAL:
- Class IV
- POLs

UNITS/PERSONNEL:
- Surveyors
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman - Engineer equipment operators
- Utilities personnel
- Motor transport operators
- Communicators

HQCO-COMM-5001: Distribute communication services across the MAGTF/MSE

SUPPORTED MET(S):

MCT 1.12.5.1.1	MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: The platoon/detachment will distribute classified/unclassified transmission, network, data, cybersecurity services in support of end user communication requirements enabling command and control.

CONDITION: Given a command's mission, communications plan, equipment and personnel.

STANDARD: Enabling command and control.

EVENT COMPONENTS:
1. Provide transmission services as required.
2. Provide network services, as required.
3. Provide data services, as required.
4. Provide cybersecurity services, as required.
5. Identify spectrum requirements.
6. Develop information security services.

REFERENCES:
1. CJCSM 6231 (Series) Manual for Employing Joint Tactical Communications
2. JP 6-0 Joint Communications System
3. MCTP 3-20B Aviation Ground Support
4. MCTP 3-30B.2 MAGTF Communications System

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
HQCO-OPS-6001 HQCO-OPS-6002

INTERNAL SUPPORTING EVENTS:
HQCO-COMM-4001 HQCO-NET-4001 HQCO-OPS-4001
HQCO-OPS-4002

HQCO-COMM-5002: Provide access to DISN services

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: The platoon/detachment will provide DISN STEP access and IOM all required communication and support assets IOT provide certified and accredited classified/unclassified transmission, network, data, cybersecurity services in support of end user communications, enabling command and control.

CONDITION: Given a command's mission, operational tasking and associated planning documentation, a communications plan, required equipment staged and ready, an approved certification and accreditation package, documentation, references, and personnel.

STANDARD: Within 36 hours, and satisfying the commander's communication requirements.

EVENT COMPONENTS:
1. Embark unit.
2. Establish field power, as required.
3. Establish transmission services as required.
4. Establish network services, as required.
5. Establish data services, as required.
6. Establish cybersecurity services, as required.
7. Identify spectrum requirements.
8. Develop information security services.

REFERENCES:
1. CJCSM 6231 (Series) Manual for Employing Joint Tactical Communications
2. JP 6-0 Joint Communications System
3. MCTP 3-20B Aviation Ground Support
4. MCTP 3-30B.2 MAGTF Communications System

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
HQCO-OPS-6001 HQCO-OPS-6002

INTERNAL SUPPORTING EVENTS:
HQCO-NET-4001 HQCO-OPS-4001 HQCO-OPS-4002

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Field power is provided by the 1100 occupational field, Utilities. Refer to NAVMC 3500.12_ Engineers & Utilities T&R Manual for T&R events relating to field power, including 0600 occupational field Marines performing incidental operation of utilities equipment.

HQCO-COMM-5003: Establish a communications site

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: The platoon/detachment will establish a communication site that is scalable IAW operational requirements.

CONDITION: Provided a command's mission, a communications site plan, documents, and required equipment and personnel.

STANDARD: Supporting operational requirements and in accordance with the communications plan.

EVENT COMPONENTS:
1. Conduct site survey.
2. Embark unit.
3. Conduct movement to site.
4. Implement force protection measures.
5. Execute communications site plan.
6. Establish field power.

REFERENCES:
1. CJCSM 6231 (Series) Manual for Employing Joint Tactical Communications
2. JP 6-0 Joint Communications System
3. MCTP 3-20B Aviation Ground Support
4. MCTP 3-30B.2 MAGTF Communications System

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
HQCO-OPS-6001 HQCO-OPS-6002

INTERNAL SUPPORTING EVENTS: HQCO-OPS-4002

HQCO-DATA-5001: Provide data services

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: The platoon will IOM all data systems IAW the data services plan utilizing all necessary support assets.

CONDITION: Provided a command's mission, operational tasking and associated planning documentation, references, existing network, equipment and personnel.

STANDARD: In accordance with applicable technical references, and satisfying the commander's data services requirements.

EVENT COMPONENTS:
1. Establish data services.
2. Install data systems.
3. Conduct DODIN operations.
4. Enforce cybersecurity policies.

REFERENCES:
1. CJCSM 6231 SERIES Manual for Employing Joint Tactical Communication

2. JP 6-0 Joint Communications System
3. MCTP 3-20B Aviation Ground Support
4. MCTP 3-30B.2 MAGTF Communications System

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
HQCO-OPS-6001 HQCO-OPS-6002

HQCO-MED-5001: Provide medical services

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: The aid station provides direct Level II medical support and provides an advanced level of care in the overall effort to sustain the combat force. The aid station is designed to provide health service support (HSS) under combat conditions. It operates as far forward as the tactical situation permits and prepares patients for return to duty or evacuation to the appropriate level of treatment.

CONDITION: Given personnel, equipment, and supplies.

STANDARD: To triage and, stabilize casualties and coordinate evacuation to higher levels of care or return casualty to duty.

EVENT COMPONENTS:
1. Conduct triage.
2. Treat casualties.
3. Stabilize for evacuation.
4. Track casualties received.
5. Prepare casualty reports.
6. Provide temporary shelter in conjunction with emergency treatment.
7. Transfer evacuees from aid station to evacuation platform.
8. Initiate medical treatment of combat stress casualties.
9. Provide routine sick call.
10. Provide ancillary services as stated in the TO/TE.
11. Maintain health records.
12. Coordinate personnel replacements/augmentees.
13. Provide medical resupply (replenishment).
14. Process disease non battle injury (DNBI) report.
15. Implement PREVMED/force health protection programs.

REFERENCES:
1. MCRP 3-40A.7 Patient Movement
2. MCTP 3-40A Health Service Support Operations
3. NAVMED P-117 Manual of the Medical Department
4. NAVMED P-5010 Navy Sanitation

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: HQCO-OPS-6001

INTERNAL SUPPORTING EVENTS: HQCO-MED-4001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17413 Field Training Area

EQUIPMENT: AMAL (Authorized Medical Allowance List).

HQCO-MED-5002: Perform mass casualty

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: Mass casualty is a medical emergency resulting in a large number of casualties that exceed a unit's local logistics support capabilities. Medical personnel are trained and equipped to provide emergency medical services, triage and evacuation of casualties.

CONDITION: Given multiple casualties that exceed existing resources, personnel, equipment and supplies.

STANDARD: To provide appropriate stabilization care to casualties during a mass casualty incident preventing further injury or death, or return of casualty to duty.

EVENT COMPONENTS:
1. Determine the nature of incident.
2. Activate mass casualty plan.
3. Identify non-medical assets available to assist.
4. Conduct triage.
5. Provide emergency treatment, as indicated.
6. Determine patient transportation requirements.
7. Establish communication for evacuation of casualties.
8. Reassess triage categories assigned, as needed (NATO Casualty Categories).
9. Evacuate casualties.

REFERENCES: MCTP 3-40A Health Service Support Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: HQCO-OPS-6001

INTERNAL SUPPORTING EVENTS:

AOPS-EFR-5002 HQCO-MED-4001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17413 Field Training Area

EQUIPMENT: AMAL (Authorized Medical Allowance List).

HQCO-NET-5001: Provide network services

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: The platoon will employ network resources IAW the network plan utilizing all necessary support assets. Network services are also referred to as Department of Defense information network (DODIN) operations.

CONDITION: Provided a command's mission, operational tasking and associated planning documentation, a network plan, an approved certification and accreditation package, documentation, references, an existing digital backbone, and equipment and personnel.

STANDARD: Within 72 hours, and satisfying the commander's network services requirements.

EVENT COMPONENTS:
1. Plan network services.
2. Establish network architecture.
3. Establish network services.
4. Extend network services.
5. Conduct DODIN operations.
6. Enforce cybersecurity policies.
7. Support help desk.

REFERENCES:
1. CJCSM 6231 SERIES Manual for Employing Joint Tactical Communication
2. DODI 8570.01-M Information Assurance Workforce Improvement Program
3. JP 3-12 Cyberspace Operations
4. JP 6-0 Joint Communications System
5. MCTP 3-20B Aviation Ground Support
6. MCTP 3-30B.2 MAGTF Communications System

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
HQCO-OPS-6001 HQCO-OPS-6002

INTERNAL SUPPORTING EVENTS: HQCO-NET-4001

HQCO-OPS-5001: Conduct Minimum Operating Strip (MOS) selection

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: After an airfield has been attacked, the MOS selection team is established in the AGSOC to receive airfield damage reports from the Damage Assessment Teams (DAT) and determine the usable areas of the airfield for aircraft launch and recovery.

CONDITION: Given the references, a mission, personnel, equipment, required tools, and a damaged runway.

STANDARD: To provide MOS options that will meet mission objectives.

EVENT COMPONENTS:
1. Determine FOB operating conditions.
2. Determine surface roughness chart requirements.
3. Determine MOS and taxiway requirements.
4. Record and plot damage information.
5. Identify candidate MOSs.
6. Determine repair quality requirements on candidate MOSs.
7. Estimate explosive ordnance disposal (EOD) and airfield damage repair (ADR) times.
8. Tabulate comparative recovery times for candidate MOSs. The MOS team leader calculates total estimated recovery times based on EOD and ADR times.
9. Brief site commander on candidate MOSs.
10. Site Commander selects MOS.

REFERENCES: MCTP 3-20B Aviation Ground Support

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

ENGR-MOBL-5001	HQCO-OPS-4001	HQCO-OPS-4002
HQCO-OPS-6001	SQDN-OPS-7005	

SUPPORT REQUIREMENTS:

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Damaged runway described in "CONDITION" can be real or simulated through alternate methods.

HQCO-PLAN-5001: Plan Field Mess

SUPPORTED MET(S): MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: The Food Services Platoon, Headquarters and Service Company within the MWSS is responsible for planning Field Mess requirements capable of supporting ACE operations.

CONDITION: Provided with ACE mission requirements, and references.

STANDARD: To meet established criteria in accordance with references and ACE mission requirements.

EVENT COMPONENTS:
1. Evaluate the mission to identify ACE Field Mess requirements.
2. Develop messing plan that meets ACE Mess requirements.
3. Determine organic table of equipment and table of organization to support mission requirements.
4. Identify food service personnel augmentation requirements.
5. Identify personnel and equipment shortages, if any.
6. Determine number of personnel to subsist.
7. Submit recommendation for field mess location.
8. Coordinate engineer reconnaissance.
9. Conduct site survey.
10. Review medical threat briefing (with attention to potable water supply, chlorine residual, foodborne illnesses of local populations, and sanitary quality of local food supply).
11. Coordinate the integration of available host nation food service capabilities.
12. Coordinate the use of MRE's as a secondary source of subsistence in the FOB.
13. Identify engineer support requirements to include mobile electric power, water, refrigeration, MHE and CE requirements.
14. Identify motor transport requirements.
15. Submit request for the Basic Daily Food Allowance (BDFA).
16. Develop and submit recommended messing hours to the ACE.
17. Assign in writing a Dining Facility Officer.
18. Coordinate "A" ration supplements and "B" ration requirements.
19. Establish a subsistence resupply plan.
20. Establish messing facility waste plan to ensure a timely removal.
21. Coordinate with Health service Preventive Medicine Technicians (PMT's) to conduct periodic messing facility sanitation inspections.

REFERENCES:
1. MCO 10110.14 Food Service SOP
2. MCRP 3-40G.1 Marine Corps Field Feeding Program
3. MCRP 4-11.3G MCRP 4-11.3G Unit Embarkation Handbook
4. MCTP 3-40B Tactical-Level Logistics
5. NAVMED P-5010-1 Manual of Naval Preventive Medicine Food Safety
6. NAVMED P-5010-9 Manual of Naval Preventive Medicine, Chapter 9, Preventive Medicine for Ground Forces
7. UM 4000-125 Retail Supply and Maintenance Execution Procedures

CHAINED EVENTS:

PREREQUISITE EVENTS:

3302-ADMN-2001	3302-NUTR-2001	33XX-ADMN-2001
33XX-ADMN-2003	33XX-ADMN-2004	33XX-ADMN-2005
33XX-ADMN-2006	33XX-ADMN-2007	33XX-ADMN-2008
33XX-EXPD-2001	33XX-SANT-1001	

INTERNAL SUPPORTED EVENTS:

HQCO-FLDM-3001	HQCO-OPS-6001	HQCO-OPS-6004

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Planning will be completed in accordance with MCRP 3-40G.1 Appendix B.

MTCO-MANT-5001: Employ Motor Transport Maintenance Platoon

SUPPORTED MET(S): MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: The MWSS possesses an organic capability to conduct field-level maintenance of all organic motor transportation equipment. The Maintenance Platoon consists of skillfully trained maintenance technicians with tools, test equipment, technical publications, and repair parts required to manage maintenance operations.

CONDITION: Given a requirement, personnel, equipment, repair parts, Automated Information Systems (AIS) and the references.

STANDARD: To assess equipment failure, repair and/or recover in order to meet mission requirements.

EVENT COMPONENTS:
1. Analyze the requirement(s).
2. Determine required resources.
3. Perform pre-operations checks.
4. Proceed to location(s).
5. Provide maintenance support.
6. Evacuate equipment assets, as required.
7. Conduct de-briefs, as required.
8. Complete required reports.

REFERENCES:
1. AIETM Applicable Interactive Electronic Technical Manual
2. AMTE-LI Applicable Motor Transport Equipment Lubrication Instruction (LI)
3. AMTE-LO Applicable Motor Transport Equipment Lubrication Order (LO)
4. AMTE-OM Applicable Motor Transport Equipment Operator Manuals (OM)
5. AMTE-SL Applicable Motor Transport Equipment Stock Listing (SL)
6. MCTP 3-20B Aviation Ground Support
7. MCTP 3-40E Maintenance Operations

8. UM 4000-125 Retail Supply and Maintenance Execution Procedures

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
MTCO-MANT-3001 MTCO-OPS-6001 MTCO-PLAN-6001

MTCO-OPS-5001: Conduct convoy operations (L/S)

SUPPORTED MET(S):
MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: A tactical convoy is a deliberate planned combat operation to move personnel and/or cargo via ground transportation in a secure manner under the control of a single commander. Tactical convoys must have access to the current common operational picture and maintain an aggressive posture that is both agile and unpredictable. Contact with the enemy can be mitigated by security and detailed planning/coordination; however, the convoy should be prepared to take immediate action against any enemy threat.

CONDITION: Given an operations order, personnel, required tools, and equipment.

STANDARD: To achieve operational objectives and arrive at a determined location with all required equipment and personnel.

EVENT COMPONENTS:
1. Receive the operation order.
2. Draft a movement order.
3. Identify classifications for routes.
4. Conduct a convoy commander's brief.
5. Create a defense plan for tactical convoy.
6. Establish convoy communication.
7. Establish convoy security.
8. Perform land navigation (convoy).
9. Conduct a debrief.
10. Prepare a convoy commander's after action report.

REFERENCES:
1. MCRP 3-34.3 Engineer Reconnaissance
2. MCRP 3-40-3_ Multi-Service Communications Procedures and Tactical Radio Procedures in Joint Environment
3. MCRP 3-40F.7 Multi-Service Tactics, Techniques, and Procedures for Tactical Convoy Operations (TCO)
4. MCRP 4-11.3F Convoy Operations Handbook
5. MCRP 4-11.4A Recovery and Battle Damage Assessment and Repair
6. MCTP 3-20B Aviation Ground Support
7. MCTP 3-34A Combined Arms Mobility
8. MCTP 3-40E Maintenance Operations
9. MCTP 3-40F Transportation Operations

10. MCWP 5-10 Marine Corps Planning Process
11. TM 11240-15/B Principal Technical Characteristics of U.S. Marine Corps Motor Transportation Equipment

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: MTCO-OPS-6003

INTERNAL SUPPORTING EVENTS:
ENGR-RECN-5001 MTCO-OPS-4001

SUPPORT REQUIREMENTS:

SIMULATION EVALUATION:

SIMULATED	SUITABILITY	SIMULATOR	UNIT OF MEASURE	HOURS	PM
Yes	L/S	CCS	Crew Hours	40	Y

NOTES: Simulation hours are recommendations based on input from SMEs during the Simulation Assessment Working Group (SAWG) in Sept 2015. Assigned hours are not intended to be prescriptive or restrictive. Units are encouraged to catalog actual simulation hours conducted during training in order to update the simulation appendix during the next T&R Manual review.

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: Motor transportation assets, communication equipment and electronic countermeasures

UNITS/PERSONNEL: Officer in Charge, Range Safety Officer, corpsman, motor transport operators and communicators

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Local Standard Operating Procedures apply based upon the area of operations.

MTCO-OPS-5002: Establish a tactical motor pool

SUPPORTED MET(S): MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: The tactical motor pool supports the MWSS as well as other units operating out of the FOB (base camp and airfield). It provides a centralized location for the management and maintenance of motor transport assets.

CONDITION: Provided with the requirement, equipment and personnel.

STANDARD: To meet operational requirements without mishap.

EVENT COMPONENTS:
1. Conduct site recon.
2. Prepare a security plan.
3. Develop space requirements for equipment.
4. Develop space requirements for facilities.
5. Develop road network requirements.
6. Prepare a defense plan.
7. Create a fire prevention plan.
8. Observe environmental considerations.

REFERENCES:
1. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
2. MCTP 3-20B Aviation Ground Support
3. MCTP 3-40E Maintenance Operations
4. MCTP 3-40F Transportation Operations
5. TM 11240-14/2 Logistic Consideration for Motor Transport Convoy Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
MTCO-OPS-4002 MTCO-OPS-6002

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

MTCO-OPS-5003: Employ Motor Transport Operations Platoon

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: The MWSS motor transport (MT) platoon provides light, medium, and heavy vehicles in support of ACE requirements. In addition to providing MT vehicle support, the platoon trains and licenses ACE personnel on the employment of tactical vehicles.

CONDITION: Given a mission, vehicles, personnel, required tools and equipment.

STANDARD: To meet the operational and sustainment requirements of one FOB and two FARPs simultaneously.

EVENT COMPONENTS:
1. Review mission.
2. Provide organic transportation capabilities.
3. Establish transportation lift support relationships.
4. Utilize materials handling equipment operations support capabilities.
5. Utilize communications capabilities, as required.
6. Conduct training/licensing of vehicle operators, to include incidental drivers.
7. Determine transportation equipment/manpower shortfalls.
8. Provide intra-base support for the MAG/ACE and FOB tenant activities.
9. Complete transportation support requests.
10. Track transportation capability availability.
11. Execute convoy operations.
12. Report the status of current transportation operations.
13. Report transportation support asset availability.
14. Report transportation requirements status.
15. Report equipment readiness.
16. Conduct operator/crew level PMCS.

REFERENCES:
1. 49 CFR Hazardous Materials Regulations
2. DOD 4500.9-R Defense Transportation Regulation (DTR)
3. MCO 11240.118_ Licensing Program for Tactical Wheeled Motor Transport Equipment Operators
4. MCRP 3-40F.7 Multi-Service Tactics, Techniques, and Procedures for Tactical Convoy Operations (TCO)
5. MCTP 3-20B Aviation Ground Support
6. MCTP 3-40E Maintenance Operations
7. MCTP 3-40F Transportation Operations
8. MCWP 5-10 Marine Corps Planning Process
9. NAVSEA SW020-AF-HBK-010 Motor Vehicle Driver and Shipping Inspector's Handbook for Ammunition, Explosives and Related Hazardous Materials
10. Title 10, USC, Section 2601 (a and b) Title 10, USC, Section 2601 (a and b)
11. TM 11240-15/B Principal Technical Characteristics of U.S. Marine Corps Motor Transportation Equipment

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

MTCO-OPS-5001	MTCO-OPS-5002	MTCO-OPS-6001
MTCO-OPS-6002	MTCO-OPS-6003	MTCO-PLAN-6001

INTERNAL SUPPORTING EVENTS:

MTCO-MANT-5001	MTCO-OPS-3001	MTCO-OPS-3002
MTCO-OPS-4001		

MWSS-ASO-5001: Conduct guard force operations

SUPPORTED MET(S): MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: The MWSS is tasked with conducting airfield security operations. Because there is no designated company or platoon within the MWSS solely responsible for this activity, the squadron will determine appropriate task organization to conduct guard force operations. The core of the guard force will composite from the MWSS; however, additional augments will be tasked from tenant units. The size of this force is dependent on security requirements and the watch schedule required. This force is used to provide security response to level I and II threats to the airfield. Additionally, the airfield security guard force may be required to assist the BDOC with airbase ground security operations.

CONDITION: Given the requirement, an airfield, trained personnel, equipment, weapons, and references.

STANDARD: To defend the personnel, aircraft, infrastructure, and facilities that are critical to sortie generation.

EVENT COMPONENTS:
1. Review the requirements.
2. Task organize.
3. Issue the order.
4. Implement applicable active security measures.
5. Implement applicable passive security measures.
6. Employ Force Protection Conditions (FPCON).
7. Employ security objectives.
8. Employ security principles.
9. Employ security tasks.
10. Employ security and control procedures.
11. Employ a medium machinegun team.
12. Employ a heavy machinegun team.
13. Provide security to the flight line.
14. React to level I security threat, as required.
15. React to level II security threat, as required.
16. Reconstitute the force.
17. Conduct debrief.
18. Document the event.

REFERENCES:
1. MCO 5530.15 U.S. Marine Corps Interior Guard Manual
2. MCTP 3-20B Aviation Ground Support
3. MCTP 3-30C Rear Area Operations
4. NAVMC 2691A U.S. Marine Corps Interior Guard Manual

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

MWSS-ASO-6001	MWSS-ASO-6002

INTERNAL SUPPORTING EVENTS:

ENGR-CMOB-4001	ENGR-CMOB-4002	ENGR-SURV-4001
ENGR-SURV-4002	ENGR-SURV-4003	ENGR-SURV-4004

ENGR-SURV-4005	ENGR-SURV-4007	MWSS-ASO-4001
MWSS-ASO-4002	MWSS-ASO-4003	MWSS-ASO-4004
MWSS-ASO-4005	MWSS-ASO-4006	

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17330 Covered Training Area
Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Equipment and weapons used by the MWSS security personnel, i.e. engineer, motor transportation, communication, Explosive Ordnance Disposal (EOD), and C4I Assets and equipment.

3006. 4000-LEVEL EVENTS

Event Code	E-Coded	Event	Page
4000 Level Events			
AOPS-EAF-4001	NO	Provide aircraft arrestment capability	3-2
AOPS-EAF-4002	NO	Provide visual landing aids for terminal guidance of aircraft	3-3
AOPS-EAF-4003	NO	Provide airfield lighting and marking	3-4
AOPS-EAF-4004	NO	Conduct aircraft arrestment operations	3-5
AOPS-EAF-4005	NO	Conduct Landing Zone (LZ) site survey	3-6
AOPS-EFR-4001	NO	Conduct structural firefighting operations	3-7
AOPS-EFR-4002	NO	Conduct Aircraft Rescue and Fire Fighting (ARFF)	3-8
AOPS-EOD-4001	NO	Provide EOD Support to Base Recovery After Attack (BRAAT)	3-9
AOPS-EOD-4002	NO	Conduct exploitation on enemy ordnance or capabilities that impact flight operations	3-11
AOPS-EOD-4003	NO	Provide EOD Support to Aircraft Recovery	3-12
AOPS-EOD-4004	YES	Conduct full spectrum EOD operations	3-13
AOPS-EOD-4005	NO	Conduct download of Aircraft Explosive Hazard (AEH)	3-14
AOPS-EOD-4006	NO	Provide response to Forward Arming and Refueling Point (FARP)	3-16
AOPS-FUEL-4001	NO	Maintain bulk fuel distribution site	3-17
ENGR-CMOB-4001	NO	Create an explosive obstacle	3-18
ENGR-CMOB-4002	NO	Create a non-explosive obstacle/barriers	3-20
ENGR-EQIP-4001	NO	Conduct Material Handling Equipment (MHE) operations	3-21
ENGR-HORZ-4001	NO	Conduct horizontal construction	3-22
ENGR-MANT-4001	NO	Maintain engineer equipment	3-24
ENGR-MOBL-4001	NO	Conduct route improvement	3-26
ENGR-MOBL-4002	NO	Repair runway crater	3-27
ENGR-MOBL-4003	NO	Repair spall(s)	3-29
ENGR-MOBL-4004	NO	Conduct dismounted route sweep operations (S/L)	3-30
ENGR-MOBL-4005	NO	Employ demolitions in support of mobility operations (S/L)	3-32
ENGR-RECN-4001	NO	Conduct site survey	3-33
ENGR-RECN-4002	NO	Conduct zone reconnaissance (S/L)	3-34
ENGR-RECN-4003	NO	Conduct route reconnaissance (S/L)	3-36
ENGR-RECN-4004	NO	Conduct area reconnaissance (S/L)	3-37
ENGR-SURV-4001	NO	Harden existing structure	3-39
ENGR-SURV-4002	NO	Construct field fortifications	3-40
ENGR-SURV-4003	NO	Construct Vehicle Control Point (VCP)	3-42
ENGR-SURV-4004	NO	Construct Entry Control Point (ECP)	3-43
ENGR-SURV-4005	NO	Construct earth filled barrier/structure	3-45
ENGR-SURV-4006	NO	Employ demolitions in support of survivability operations	3-46
ENGR-SURV-4007	NO	Construct vehicle protective position	3-47
ENGR-UTIL-4001	NO	Provide electrical power	3-49
ENGR-UTIL-4002	NO	Provide potable water	3-50
ENGR-UTIL-4003	NO	Provide hygiene support	3-51

ENGR-VERT-4001	NO	Construct manufactured steel structure	3-52
ENGR-VERT-4002	NO	Construct wood frame structure	3-53
ENGR-VERT-4003	NO	Construct concrete block structure	3-55
ENGR-VERT-4004	NO	Construct timber structure	3-56
ENGR-VERT-4005	NO	Repair existing structures	3-58
ENGR-VERT-4006	NO	Construct Concrete Structure	3-59
ENGR-VERT-4007	NO	Construct expedient drainage structure	3-60
HQCO-COMM-4001	NO	Establish data network services	3-61
HQCO-MED-4001	NO	Coordinate patient movement	3-62
HQCO-NET-4001	NO	Provide network services	3-63
HQCO-OPS-4001	NO	Conduct Damage Assessment Team (DAT) activities	3-64
HQCO-OPS-4002	YES	Conduct Damage Assessment and Response Team (DART) activities	3-65
HQCO-OPS-4003	YES	Provide access to DISN services	3-66
HQCO-OPS-4004	YES	Establish a communications site	3-67
MTCO-OPS-4001	NO	Conduct convoy operations (L/S)	3-68
MTCO-OPS-4002	NO	Conduct Motor Transport operations	3-70
MWSS-ASO-4001	NO	Implement security measures	3-71
MWSS-ASO-4002	NO	Employ Force Protection Conditions (FPCON)	3-72
MWSS-ASO-4003	NO	Employ security objectives	3-73
MWSS-ASO-4004	NO	Employ security principles	3-74
MWSS-ASO-4005	NO	Employ security tasks	3-75
MWSS-ASO-4006	NO	Employ security and control procedures	3-76

AOPS-EAF-4001: Provide aircraft arrestment capability

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: The installation of the M-31 Marine Corps Expeditionary Arresting Gear System (MCEAGS) enables the ACE to operate from airfields that lack sufficient runway length to support T/M/S roll-out requirements when landing, or when aborting take-off. Additionally, M-31 MCEAGS can provide overrun protection for aircraft during aborted takeoffs and during inclement weather or adverse runway surface conditions.

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

STANDARD: To employ the M-31 MCEAGS in accordance with NAVAIR directives.

EVENT COMPONENTS:
1. Conduct site survey.
2. Submit installation design review to NAVAIR.
3. Install the M-31 MCEAGS.
4. Obtain certification of M-31 MCEAGS.
5. Operate the M-31 MCEAGS.
6. Maintain M-31 MCEAGS.

REFERENCES:
1. NAVAIR 51-5FAA-1(_) M31 Marine Corps Expeditionary Arresting Gear System

2. NAVAIR 51-5FAA-2(_) M31 Periodic Maintenance Requirements
3. NAVAIR 51-5FAA-3 M31 Preoperational Checklist
4. NAVAIRINST 13800.12B Certification of Expeditionary Airfield AM-2 Mat Installations, Aircraft Recovery Equipment, Visual/Optical Landing Aids, and Marking/Lighting Systems

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: AOPS-EAF-5001

INTERNAL SUPPORTING EVENTS:

AOPS-EAF-4002	AOPS-EAF-4003	AOPS-EAF-4004
AOPS-EAF-4005	ENGR-EQIP-4001	ENGR-HORZ-4001
ENGR-MOBL-4002	ENGR-MOBL-4003	ENGR-RECN-4001
ENGR-UTIL-4001		

AOPS-EAF-4002: Provide visual landing aids for terminal guidance of aircraft

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: The Fresnel Lens Optical Landing System (FLOLS) provides optimal approach information to pilots intending to conduct an arrested landing utilizing the M-31 MCEAGS. The FLOLS provides a day/night visual reference enabling the pilot to fly a 3 degree glideslope that will touch the tail hook down 150-feet prior to the arresting gear cable. This minimizes the chance of an aborted landing due to hook-skip.

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

STANDARD: To employ the FLOLS in accordance with NAVAIR directives.

EVENT COMPONENTS:
1. Conduct site survey.
2. Submit design review to NAVAIR.
3. Determine FLOLS location.
4. Install FLOLS.
5. Obtain certification of FLOLS.
6. Operate FLOLS.
7. Maintain FLOLS.

REFERENCES:
1. MCTP 3-20B Aviation Ground Support
2. NAVAIR 51-40ABA-14 Portable Shore Based Fresnel Lens OLS MK 8 MOD 0 & MOD 1
3. NAVAIRINST 13800.12B Certification of Expeditionary Airfield AM-2 Mat Installations, Aircraft Recovery Equipment, Visual/Optical Landing Aids, and Marking/Lighting Systems

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: AOPS-EAF-5001

INTERNAL SUPPORTING EVENTS:

AOPS-EAF-4003	AOPS-EAF-4004	ENGR-EQIP-4001
ENGR-HORZ-4001	ENGR-MOBL-4001	ENGR-MOBL-4002
ENGR-MOBL-4003	ENGR-RECN-4001	ENGR-UTIL-4001

AOPS-EAF-4003: Provide airfield lighting and marking

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: EAF airfield marking and lighting systems provide pilots and aircrew with visual navigational cues when approaching and departing the airfield. Additionally, the systems enable safe navigation of airfield surfaces (runways, taxiways, etc.) during periods of reduced visibility.

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

STANDARD: In accordance with NAVAIR directives.

EVENT COMPONENTS:
1. Conduct site survey, as required.
2. Determine lighting requirement.
3. Install lighting system.
4. Obtain certification, as required.
5. Operate lighting system.
6. Maintain lighting system.

REFERENCES:
1. MCTP 3-20B Aviation Ground Support
2. NAVAIR 51-40ABA-18 Lighting & Marking for EAF Bare-Base Airfields
3. NAVAIR 51-40ABA-7 Lighting & Marking for EAF
4. NAVAIR 51-50ABA-16(_) Minimum Operating Strip Lighting System (MOSLS)
5. NAVAIRINST 13800.12B Certification of Expeditionary Airfield AM-2 Mat Installations, Aircraft Recovery Equipment, Visual/Optical Landing Aids, and Marking/Lighting Systems

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: AOPS-EAF-5001

INTERNAL SUPPORTING EVENTS: ENGR-UTIL-4001

AOPS-EAF-4004: Conduct aircraft arrestment operations

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: EAF Marines are trained and equipped to conduct aircraft arrestment operations in support of flight sorties at Forward Operating Bases (FOBs). An aircraft arrestment requires coordination of effort and operational precision in order to ensure the safe recovery of flight crew personnel and aircraft.

CONDITION: Given an aircraft requiring arrested landing, appropriate EAF personnel and equipment.

STANDARD: To achieve a mishap free arrestment.

EVENT COMPONENTS:
1. Conduct EAF equipment operational checks prior to commencing air operations.
2. Upon notification of an intended arrested landing, assign personnel to equipment, as required.
3. Make proper settings on arresting equipment and FLOLS.
4. Provide a ready deck for arrestment.
5. Monitor the arrestment.
6. Clear the aircraft off arresting gear.
7. Maintain airfield/recovery operations daily journal.

REFERENCES:
1. Aircraft Recovery Bulletin No.10-10 General Information for all Arresting Gear and Optical Landing Systems
2. NAVAIR 00-80T-115 Expeditionary Airfields Forward Operating Bases NATOPS Manual
3. NAVAIR 51-5FAA-1(_) M31 Marine Corps Expeditionary Arresting Gear System
4. NAVAIR 51-5FAA-2(_) M31 Periodic Maintenance Requirements
5. NAVAIR 51-5FAA-3 M31 Preoperational Checklist
6. NAVAIRINST 13800.12B Certification of Expeditionary Airfield AM-2 Mat Installations, Aircraft Recovery Equipment, Visual/Optical Landing Aids, and Marking/Lighting Systems

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: AOPS-EAF-5001

SUPPORT REQUIREMENTS:

EQUIPMENT: Arresting gear, optical landing aids and associated equipment.

UNITS/PERSONNEL: Qualified EAF personnel for: Section leader/recovery coordinator, plane director, (2) engine operators, cable runner, FLOLS operator, and duty runway vehicle operator.

AOPS-EAF-4005: Conduct Landing Zone (LZ) site survey

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: The EAF services platoon possesses the capability to conduct landing zone (LZ) site surveys, selection, and marking. This capability is critical when conducting FOB operations forward of main operating bases.

The LZ provides the ACE with the ability to project aviation power forward and sustain operations. The proper execution of a LZ site survey provides the commander with critical information regarding the potential LZ sites (i.e., surface load bearing capabilities, LZ dimensions, safety zone, and expandability). Although the MATC mobile team (MMT) of the MACG has the capability to conduct expedient LZ site surveys and selection, only the MWSS possesses the equipment and training necessary within the MAW to conduct soil suitability testing of potential LZ sites. The MWSS maintains equipment that can determine the shearing strength of soils, asphalt surfaces and sub-grades, as well as soil analysis equipment, which can determine the gradation, compression, and content of the soil.

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

STANDARD: To determine suitability of a landing zone in support of mission requirements.

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.

REFERENCES:
1. GTA 5-2-5 Engineer Reconnaissance
2. MCRP 3-34.1 Engineer Field Data
3. MCRP 3-34.3 Engineer Reconnaissance
4. MCRP 3-34.4 Engineer Forms and Reports
5. MCRP 3-40D.6 Construction Project Management
6. MCTP 3-20B Aviation Ground Support
7. MCWP 3-34 Engineering Operations
8. NAVAIR 00-80T-115 Expeditionary Airfields Forward Operating Bases NATOPS Manual
9. UFC 3-260-01 Unified Facilities Criteria - Airfield and Heliport Planning and Design

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: AOPS-EAF-5001

INTERNAL SUPPORTING EVENTS: ENGR-RECN-4001

SUPPORT REQUIREMENTS:

EQUIPMENT: Engineer survey equipment, EAF survey equipment.

UNITS/PERSONNEL: Engineer surveyor 1361, Expeditionary Airfields Officer 7002, Expeditionary Airfields Chief 7011.

AOPS-EFR-4001: Conduct structural firefighting operations

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: EFR Marines are trained and equipped to conduct structural firefighting operations in support of buildings on or near a FOB, to include adjacent Base Camps. In addition, EFR personnel are trained and equipped to provide Emergency Medical Services and initial response to mishaps involving Hazardous Materials.

CONDITION: Given a structural fire scenario, firefighting personnel, fire fighting vehicles/equipment.

STANDARD: To save lives and minimize fire damage to government property in accordance with NAVAIR directives.

EVENT COMPONENTS:
1. Coordinate response of firefighting personnel/vehicles.
2. Coordinate approach/positioning of vehicles at the site.
3. Protect nearby structures from fire/heat.
4. Conduct search and rescue of personnel.
5. Extinguish fires throughout the structure.
6. Maintain water resupply to firefighting vehicles and equipment.
7. Ensure all smoldering fires are extinguished.
8. Conduct structural overhaul and salvage operations, as necessary.
9. Gather information for incident report.
10. Enter incident report into Marine Corps Fire Incident Reporting System (MCFIRS).

REFERENCES:
1. IFSTA 36538 International Fire Service Training Association (IFSTA) 36538, Essentials of Fire Fighting and Fire Department Operations
2. NAVAIR 00-80R-14 NATOPS U.S. Navy Aircraft Emergency Rescue Information
3. NFPA 1001 Standard for Fire Fighter Professional Qualifications
4. NFPA 1002 Standard for Fire Apparatus Driver/Operator Professional Qualifications

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: AOPS-EFR-5001

INTERNAL SUPPORTING EVENTS: AOPS-EFR-4002

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17951 Fire Fighting And Rescue Training Area

EQUIPMENT: Firefighting vehicles outfitted with appropriate equipment and tools for structural firefighting, for example: ladders, hoses, forcible entry tools, etc.

MISCELLANEOUS:

SPECIAL PERSONNEL CERTS: All EFR personnel should have the appropriate qualifications for the job/duties to be performed for example: Firefighter I, Firefighter II, Fire Apparatus Driver/Operator, etc.

AOPS-EFR-4002: Conduct Aircraft Rescue and Fire Fighting (ARFF)

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: EFR Marines are trained and equipped to conduct ARFF in support of flight sorties at FOBs. EFR personnel are task organized and equipped to provide immediate response to aircraft mishaps on the airfield and surrounding areas, emergency medical services, and initial response mishaps involving hazardous materials.

CONDITION: Given an aircraft mishap scenario, firefighting personnel, firefighting vehicles/equipment.

STANDARD: To save lives and minimize fire damage to government property in accordance with NAVAIR directives.

EVENT COMPONENTS:
1. Coordinate response of EFR personnel/vehicles.
2. Coordinate approach/positioning of vehicles at the mishap site.
3. Coordinate extrication/rescue/egress of crewmembers/passengers.
4. Extinguish aircraft fires.
5. Extinguish fires at mishap site.
6. Manage immediate hazards related to ordnance and ammunitions.
7. Contain hazardous materials (fuel, hydraulic fluids/oils, composite fibers, etc.).
8. Conduct salvage operations, as necessary.

9. Gather information for incident report.
10. Enter incident report into Marine Corps Fire Incident Reporting System (MCFIRS).

REFERENCES:
1. IFSTA 36538 International Fire Service Training Association (IFSTA) 36538, Essentials of Fire Fighting and Fire Department Operations
2. NAVAIR 00-80R-14 NATOPS U.S. Navy Aircraft Emergency Rescue Information
3. NAVAIR 00-80R-14-1 NATOPS U.S. Navy Aircraft Emergency Rescue Information Manual
4. NAVAIR 00-80R-20 NATOPS U.S. Navy Aircraft Crash & Salvage Operations Manual (Ashore)
5. NFPA 1001 Standard for Fire Fighter Professional Qualifications
6. NFPA 1002 Standard for Fire Apparatus Driver/Operator Professional Qualifications
7. NFPA 1003 Standard for Airport Fire Fighter Professional Qualifications

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: AOPS-EFR-5001

INTERNAL SUPPORTING EVENTS:

AOPS-EFR-4001	ENGR-EQIP-3001	ENGR-EQIP-3002
ENGR-EQIP-4001	ENGR-UTIL-3001	ENGR-UTIL-3002
ENGR-UTIL-3003	ENGR-UTIL-3007	ENGR-UTIL-3008
ENGR-UTIL-4001	ENGR-UTIL-4002	HQCO-COMM-4001
HQCO-MED-3001	HQCO-MED-3002	HQCO-MED-3003
HQCO-MED-3004	HQCO-MED-4001	HQCO-OPS-4001
HQCO-OPS-4002	MTCO-MANT-3001	MTCO-OPS-3001
MTCO-OPS-3002	MTCO-OPS-4001	

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17951 Fire Fighting And Rescue Training Area

EQUIPMENT: Firefighting vehicles outfitted with appropriate equipment and tools for aircraft firefighting and rescue/extrication of flight crew members, for example: aircraft safety pins/down locks, forcible entry tools, specialized rescue tools, etc.

MISCELLANEOUS:

SPECIAL PERSONNEL CERTS: All EFR personnel should have the appropriate qualifications for the job/duties to be performed for example: airport fire fighter, firefighter I, firefighter II, fire apparatus driver/operator, etc.

AOPS-EOD-4001: Provide EOD Support to Base Recovery After Attack (BRAAT)

SUPPORTED MET(S):

MCT 1.12.5.1.1	MCT 1.12.5.1.2	MCT 1.4.1.5

EVALUATION-CODED: NO **SUSTAINMENT INTERVAL:** 18 months

READINESS-CODED: NO

DESCRIPTION: Provide EOD response capabilities to base, forward operating base, or forward arming refueling points in order to reestablish flight operations.

CONDITION: Given a base that has been attacked with conventional ordnance or improvised explosives hazards.

STANDARD: To mitigate explosive hazards in order to restore flight operations.

EVENT COMPONENTS:
1. Conduct mission analysis.
2. Assist Damage Assessment Team (DAT) and Damage Assessment Response Team (DART) activities.
3. Develop plan.
4. Estimate time until conventional or improvised hazards are cleared.
5. Task organize for response.
6. Train or employ additional personnel, as required.
7. Execute plan.
8. Destroy, dispose, or recover components, as required.
9. Conduct exploitation.
10. Complete the required report.

REFERENCES:
1. AEODPS 60 Series Automated EOD Publication System
2. MCO 3571.2_ Explosive Ordnance Disposal (EOD) Program

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
SQDN-OPS-7005 SQDN-PLAN-7003

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	QUANTITY
A552 Cartridge, Caliber .50 Ball, Ctn F/M2	2 cartridges per Marine
A555 Cartridge, Caliber .50 Ball M33 Linked (M2 Links)	12 cartridges per Marine
A606 Cartridge, Caliber .50 API MK211 Mod 0 Single Round	2 cartridges per Marine
AA11 Cartridge, 7.62mm Long Range M118 LR	40 cartridges per Marine
M023 Charge, Demolition Block M112 1-1/4 pound C-4	2 charges per Marine
M131 Cap, Blasting Non-Electric M7	10 blasting caps per Marine
M456 Cord, Detonating PETN Type I Class E	100 FT per Marine
M670 Fuse, Blasting Time M700	100 FT per Marine
M757 Charge, Assembly Demolition M183 Comp C-4	1 charges per Marine

M980 Charge, Demolition Sheet 0.0831 Inch Thick	2 FT per Marine
M981 Charge, Demolition Sheet 0.125 Inch Thick	2 FT per Marine
M982 Charge, Demolition Sheet 0.166 Inch Thick	2 FT per Marine
M986 Charge, Demolition Sheet 0.333 Inch Thick	2 FT per Marine
MN08 Igniter, Time Blasting Fuse with Shock Tube Capability M81	10 igniters per Marine

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces
Facility Code 17830 Light Demolition Range
Facility Code 17963 MOUT Collective Training Facility (Large)

ADDITIONAL RANGE/TRAINING AREA:
EQUIPMENT: Family of EOD equipment

UNITS/PERSONNEL: Trauma Corpsman, 8404, 8425, 8427

AOPS-EOD-4002: Conduct exploitation on enemy ordnance or capabilities that impact flight operations

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

EVALUATION-CODED: NO **SUSTAINMENT INTERVAL:** 18 months

READINESS-CODED: NO

DESCRIPTION: Provide exploitation analysis of enemy ordnance, capabilities, or explosive hazards to ensure required mitigation techniques (i.e. force protection/protective works) are applied.

CONDITION: Given recovered ordnance items, impact crater, detonation site, and/or intelligence overview of operational area.

STANDARD: Prevent loss of flight operations.

EVENT COMPONENTS:
1. Conduct mission analysis.
2. Develop plan.
3. Task organize for response.
4. Conduct exploitation.
5. Complete the required report.

REFERENCES:
1. AEODPS 60 Series Automated EOD Publication System
2. CFR 49 Code of Federal Regulations - Hazardous Materials
3. DODDIR 3150.8 DOD Response to Radiological Accidents
4. FM 5-25 Explosives and Demolitions
5. MCTP 10-10D MAGTF Explosive Ordnance Disposal
6. OP 2239 Motor Vehicle Driver's Handbook, Ammunition, Explosives and related Hazardous Materials

CHAINED EVENTS:

INTERNAL SUPPORTING EVENTS:
AOPS-EOD-3002 AOPS-EOD-3009 AOPS-EOD-3011
EOD-CBRN-4001

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	QUANTITY
B643 Cartridge, 60mm High Explosive M888	1 cartridges per Section
C869 Cartridge, 81mm HE M889/M889A1 with PD Fuze M935	1 cartridges per Section
DA54 Projectile, 155mm HE (IMX-101) w/Supp Charge	1 projectiles per Section
M023 Charge, Demolition Block M112 1-1/4 pound C-4	3 charges per Section
M032 Charge, Demolition Block TNT 1-Pound	3 charges per Section
M039 Charge, Demolition Cratering 40-Pound	2 charges per Section
M130 Cap, Blasting Electric M6	13 blasting caps per Section
M591 Dynamite, Military M1	3 charges per Section

RANGE/TRAINING AREA:

Facility Code 17430 Impact Area Dudded
Facility Code 17820 Engineer Qualification Range, Non-Standardized
Facility Code 17830 Light Demolition Range
Facility Code 17937 Aerial Bombing Range

ADDITIONAL RANGE/TRAINING AREA:
EQUIPMENT: Family of EOD equipment, HESCO Barriers

UNITS/PERSONNEL: Trauma Corpsman, 8404, 8425, 8427

AOPS-EOD-4003: Provide EOD Support to Aircraft Recovery

SUPPORTED MET(S): MCT 1.12.5.1.1

EVALUATION-CODED: NO **SUSTAINMENT INTERVAL:** 18 months

READINESS-CODED: NO

DESCRIPTION: Provide EOD response capabilities in support of aircraft crashes, mishaps, and/or incidents in garrison/deployed settings.

CONDITION: Given an aircraft incident.

STANDARD: To mitigate explosive components and safely recover equipment, personnel, and/or classified material.

EVENT COMPONENTS:
1. Conduct mission analysis.

2. Develop plan
3. Task organize for response.
4. Execute plan.
5. Destroy, dispose, or recover components as required.
6. Complete the required report.

REFERENCES:
1. FM 3-04.513 Aircraft Recovery Operations
2. MCO 3571.2_ Explosive Ordnance Disposal (EOD) Program
3. MCTP 3-20B Aviation Ground Support
4. NAVAIR 00-80R-20 NATOPS U.S. Navy Aircraft Crash & Salvage Operations Manual (Ashore)

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
HQCO-OPS-6002 SQDN-OPS-7006

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	QUANTITY
M130 Cap, Blasting Electric M6	5 blasting caps per Marine
M131 Cap, Blasting Non-Electric M7	5 blasting caps per Marine
M174 Cartridge, Caliber .50 Impulse Electrically-Initiated	2 cases per Marine
M456 Cord, Detonating PETN Type I Class E	100 FT per Marine
M670 Fuse, Blasting Time M700	100 FT per Marine
M757 Charge, Assembly Demolition M183 Comp C-4	1 charges per Marine
M980 Charge, Demolition Sheet 0.0831 Inch Thick	2 FT per Marine
M981 Charge, Demolition Sheet 0.125 Inch Thick	2 FT per Marine
M982 Charge, Demolition Sheet 0.166 Inch Thick	2 FT per Marine
M986 Charge, Demolition Sheet 0.333 Inch Thick	2 FT per Marine
MN08 Igniter, Time Blasting Fuse with Shock Tube Capability M81	5 igniters per Marine

RANGE/TRAINING AREA:

Facility Code 17830 Light Demolition Range
Facility Code 17963 MOUT Collective Training Facility (Large)

AIRCRAFT: Family of military aircraft

EQUIPMENT: Family of EOD equipment

UNITS/PERSONNEL: Corpsman, 8404, 8425, 8427

AOPS-EOD-4004: Conduct full spectrum EOD operations

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

MCT 6.1.1.3.4.1

EVALUATION-CODED: YES **SUSTAINMENT INTERVAL:** 18 months

READINESS-CODED: NO

CONDITION: Given a mission, personnel, equipment, and references.

STANDARD: To locate, access, identify, render safe, neutralize, exploit/analyze and dispose of hazards and components from foreign and domestic, UXO, conventional ordnance, IED, AEH, and Chemical Biological Radiological Nuclear and High-Yield Explosive (CBRNE) to include WMD, that present a threat to operations, installations, personnel or materiel.

EVENT COMPONENTS:
1. Determine time available.
2. Conduct problem framing.
3. Determine planning process (MCPP, R2P2, hasty planning, or other method).
4. Establish timeline for planning and preparation.
5. Issue warning order.
6. Create orders (OPORD, FRAGO, Decision Support Tools, etc.).
7. Issue orders.
8. Conduct actions.
9. Implement feedback mechanisms.
10. Coordinate planning with higher, adjacent, subordinate, and supporting units.

REFERENCES:
1. AEODPS 60 Series Automated EOD Publication System
2. Presidential Memorandum Nov. 28, 2011 Managing Government Records

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17830 Light Demolition Range
Facility Code 17962 MOUT Collective Training Facility (Small)
Facility Code 17963 MOUT Collective Training Facility (Large)

AIRCRAFT: Family of military aircraft

EQUIPMENT: Family of EOD equipment

UNITS/PERSONNEL: Trauma Corpsman, 8404, 8425, 8427

AOPS-EOD-4005: Conduct download of Aircraft Explosive Hazard (AEH)

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Provide response capabilities to appropriately handle and mitigate all AEHs that occur during normal flight operations.

CONDITION: Given an AEH during normal flight operations.

STANDARD: To mitigate explosive components by safely removing AEHs and disposing, destroying, or recovering components as required.

EVENT COMPONENTS:
1. Conduct mission analysis.
2. Task organize for response.
3. Develop plan.
4. Execute plan.
5. Destroy, dispose, or recover components, as required.
6. Complete the required report.

REFERENCES:
1. AEODPS 60 Series Automated EOD Publication System
2. MCO 3571.2_ Explosive Ordnance Disposal (EOD) Program
3. MCTP 3-20B Aviation Ground Support

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

AOPS-FUEL-5001	AOPS-PLAN-6001	HQCO-OPS-4001
HQCO-OPS-4002		

SUPPORT REQUIREMENTS:

ORDNANCE:

DODIC	QUANTITY
M131 Cap, Blasting Non-Electric M7	10 blasting caps per Section
M670 Fuse, Blasting Time M700	200 FT per Section
M757 Charge, Assembly Demolition M183 Comp C-4	2 charges per Section
MN08 Igniter, Time Blasting Fuse with Shock Tube Capability M81	10 igniters per Section
NA15 Fuze, Electronic Time M767A1	4 fuzes per Section

ORDNANCE NOTES:
When available acquire the following via Code H or Special Ammunition Request (SAR):
A990 CTG, 25MM SAPHEI PGU-34/U SNGLE RD
AA22 CTG, 20MM SAPHEI BULK PACK
GW03 SWITCH, ARM, SAFE MK122 MOD0
MT95 CTG, IMP, CCU-107
MD65 CARTRIDGE IMPULSE CCU-45/B, F/STORES RELEASE
NW20 CHAFF, RR-129
NW33 CHAFF, RR-144
L411 FLARE, PARA LUU-2
LA01 FLARE, AIRCRAFT DECOY MJU-32B

H842 WHD 2.75in HE XM/M151
H855 WHD 2.75in RKT SMOKE
HY71 WHD 2.75in RKT, FLECHETTE
HA07 RCKT MTR 2.75in MK-66-4
H929 WHD 5in RKT SMOKE
H930 WHD 5¿ RKT HE
J271 RKT MTR, 5in MK71
J289 Fuze RKT RMU-90
F017 BOMB PRAC BDU-45
F289 BOMB GP, BLU-111 MK82
E510 BOMB GP, MK83 HE
E511 BOMB GP, MK83 INERT
F642 FIN, BOMB F/MK83 LOW DRAG
EB04 BOMB GENERAL PURPOSE, BLU-117 A/B
EB05 FUZE, FMU-139B/B
BWGF SENSOR PROX DSU-33B/B
BWHC ASSY KIT FUZE F/FMU-139 and DSU-33
EA56 CBU-99B/B
E134 FIREBOMB, MK77
GW04 INITIATOR, FIREBOMB, MK13 MOD 0
WH65 GUIDED MISSILE AGM-114B HELLFIRE
Ordnance containing White Phosphorous is highly recommended but not allocated via T&R. Ordnance containing White Phosphorous should be allocated utilizing a SAR and/or the Code H list at the EOD unit's discretion.

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces
Facility Code 17963 MOUT Collective Training Facility (Large)

AIRCRAFT: Family of military aircraft

EQUIPMENT: Family of EOD equipment

UNITS/PERSONNEL: Trauma Corpsman, 8404, 8425, 8427

AOPS-EOD-4006: Provide response to Forward Arming and Refueling Point (FARP)

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Provide EOD response capabilities to mitigate explosive hazards during FARP operations.

CONDITION: Given a mission order, location of operation and requirements.

STANDARD: To mitigate interruptions in the timely rearming of various aircraft and enable sortie generation.

EVENT COMPONENTS:

1. Conduct mission analysis.
2. Task organize for response.
3. Develop plan.
4. Execute plan.
5. Destroy, dispose, or recover components, as required.
6. Complete the required report.

REFERENCES:
1. AEODPS 60 Series Automated EOD Publication System
2. MCO 3571.2_ Explosive Ordnance Disposal (EOD) Program

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces
Facility Code 17963 MOUT Collective Training Facility (Large)

AIRCRAFT: Family of military aircraft

EQUIPMENT: Family of EOD equipment

UNITS/PERSONNEL: Trauma Corpsman, 8404, 8425, 8427

AOPS-FUEL-4001: Maintain bulk fuel distribution site

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Employ tactical fuel systems, to include: SIXCON pump and tank module, MK970 semi-trailer tank (5K) and MK931 truck tractor (7 Ton), Helicopter Expedient Refueling System (HERS) and Tactical Airfield Fuel Dispensing System (TAFDS).

CONDITION: With a bulk petroleum distribution plan, bulk petroleum supply, distribution system, equipment, and personnel.

STANDARD: To dispense fuel in order to meet ACE mission requirements.

EVENT COMPONENTS:
1. Coordinate with supported unit.
2. Determine personnel, tools, and equipment requirement(s).
3. Survey proposed area and prepare site.
4. Construct tactical fuel system (TFS) (mission dependent).
5. Place environmental control devices.
6. Place firefighting equipment.
7. Ensure quality control measures are in compliance.
8. Conduct bulk fuel operations.
9. Implement inventory control procedures.
10. Provide reports as required.

REFERENCES:
1. FM 10-69 Petroleum Supply Point Equipment and Operations
2. MCRP 3-40B.5 Petroleum and Water Logistics Operations
3. MCTP 3-20B Aviation Ground Support
4. MCTP 3-40B Tactical-Level Logistics
5. MIL-STD-3004D w/CH 1 Department of Defense Standard Practice Quality Assurance/Surveillance for Fuels, Lubricants and Related Products
6. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
7. TB 10-5430-253-13 Technical Bulletin for Collapsible Fabric Fuel Tanks
8. TM 3835-OI/1A Marine Corps Tactical Fuel Systems

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: AOPS-FUEL-5002

INTERNAL SUPPORTING EVENTS:

AOPS-FUEL-3001	ENGR-EQIP-3002	ENGR-EQIP-3003
ENGR-EQIP-4001	ENGR-HORZ-4001	ENGR-MOBL-4001
ENGR-RECN-3002	ENGR-RECN-4001	ENGR-UTIL-3001
ENGR-UTIL-3002	ENGR-UTIL-4001	HQCO-COMM-4001
HQCO-OPS-4001	MTCO-OPS-3002	

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17933 POL Training Area

EQUIPMENT: Tactical Fuel System (TFS), Construction Equipment (CE), Material Handling Equipment(MHE), utilities equipment, bulk fuel equipment, Motor Transport equipment, tactical communications equipment and personal protective equipment (PPE)

MATERIAL: Plan for POL and HazMat.

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Other personnel required: Corpsman and security personnel.

ENGR-CMOB-4001: Create an explosive obstacle

SUPPORTED MET(S):
MCT 1.4.1.5 MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: Create an explosive obstacle in support of Airfield Security Operations (ASO) 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 disrupt enemy personnel or equipment in accordance with the obstacle plan.

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. Create obstacle.
8. Emplace expedient anti-personnel devices, as required.
9. Account for all personnel and equipment prior to returning to friendly lines.
10. Coordinate lane closure plan with supported unit, as required.
11. Submit required reports.

REFERENCES:
1. MCRP 10-10.1 Countering Explosive Hazards
2. MCRP 3-34.1 Engineer Field Data
3. MCRP 3-34.2 Explosives and Demolitions
4. MCRP 3-34.3 Engineer Reconnaissance
5. MCTP 3-34B Combined Arms Countermobility Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-CMOB-5001

INTERNAL SUPPORTING EVENTS:

ENGR-CMOB-3001	ENGR-CMOB-3002	ENGR-EQIP-3002
ENGR-EQIP-3003	ENGR-RECN-4001	MTCO-OPS-4001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17730 Fire And Movement Range
Facility Code 17830 Light Demolition Range

EQUIPMENT:
- Combat engineer chests, sets and kits
- Material Handling Equipment (MHE)
- Construction equipment
- Communications equipment
- Motor transport assets

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman
- Engineer equipment operators
- Motor transport operators

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: The recommended types and quantities of ammunition, explosive, pyrotechnics and munitions can be found on ENGRCMOB-5001.

ENGR-CMOB-4002: Create a non-explosive obstacle/barriers

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5
MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: Create non-explosive obstacles/barriers in support of Airfield Security Operations (ASO) to turn, block, fix, or disrupt enemy movement or maneuver of personnel or equipment.

CONDITION: Given a mission, commanders intent, location to emplace the obstacle, task organized personnel and equipment, and resources (Class IV and V supplies, 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 obstacle plan.

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 mobility 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 deceptive 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.

REFERENCES:
1. MCRP 2-10B.1 Intelligence Preparation of the Battlefield/Battlespace
2. MCTP 3-34B Combined Arms Countermobility Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-CMOB-5001

INTERNAL SUPPORTING EVENTS:

ENGR-CMOB-3001	ENGR-CMOB-3001	ENGR-CMOB-3002
ENGR-CMOB-3002	ENGR-EQIP-3002	ENGR-EQIP-3003
ENGR-EQIP-3003	ENGR-RECN-4001	ENGR-RECN-4001
MTCO-OPS-4001		

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

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

EQUIPMENT:
- Combat engineer chests, sets and kits
- Material Handling Equipment (MHE)
- Construction equipment
- Communications equipment
- Motor transport assets

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman
- Engineer equipment operators
- Motor transport operators

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: The recommended types and quantities of ammunition, explosive, pyrotechnics and munitions can be found on ENGRCMOB-5001.

ENGR-EQIP-4001: Conduct Material Handling Equipment (MHE) operations

SUPPORTED MET(S):

MCT 1.12.5.1.1	MCT 1.12.5.1.2	MCT 1.4.1.5
MCT 6.1.1.3.4.1		

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

READINESS-CODED: NO

DESCRIPTION: Conduct Material Handling Equipment (MHE) operations to move/load/unload supplies, equipment, vehicles, containers, palletized cargo and other miscellaneous items in support of the ACE utilizing the required type(s) of engineer equipment and personnel.

CONDITION: Given a requirement, personnel, equipment, and references.

STANDARD: To meet mission requirements.

EVENT COMPONENTS:
1. Review requirement.
2. Coordinate with supported unit (location, requirements, security, ground guides, etc.).
3. Prepare equipment for operation.
4. Move to site.
5. Establish safety zone.
6. Deploy safety measures for equipment.
7. Verify weight of lift requirement.
8. Operate MHE.
9. Load and unload materiel(s).
10. Verify job task completed with supported unit.
11. Conduct equipment recovery operations, as required.
12. Perform after operations checks and services.
13. Submit required reports.

REFERENCES:
1. MCRP 3-34.4 Engineer Forms and Reports
2. TC 3-21.60 Visual Signals
3. TM 4700-15/1_ Ground Equipment Record Procedures

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-EQIP-5001

INTERNAL SUPPORTING EVENTS:
ENGR-EQIP-3001 ENGR-EQIP-3002 MTCO-OPS-4001

SUPPORT REQUIREMENTS:

EQUIPMENT:
- Material Handling Equipment
- Engineer Equipment Trailer (EET)
- Motor transport assets
- Communication equipment

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman - Engineer equipment operators
- Motor transport operators
- Communicators

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Prior to conducting lift requirement ensure ground guides demonstrate proper use of standard hand and arm signals to operator. Refer to unit and local SOP for additional restrictions and/or considerations.

ENGR-HORZ-4001: Conduct horizontal construction

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5
MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: The conduct of horizontal construction necessary to shape the terrain in order to meet the operational requirements of the ACE.

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

STANDARD: That meets the requirements listed in the design specifications.

EVENT COMPONENTS:
1. Conduct site survey.
2. Review horizontal construction plans.
3. Coordinate support for horizontal construction.
4. Prepare equipment for operation.
5. Prepare equipment for operation.
6. Conduct site preparation.
7. Stabilize soil, as required.
8. Employ survey equipment, as required.
9. Employ engineer equipment (Material Handling Equipment (MHE)and Construction Equipment (CE)) assets, as required.
10. Construct non-explosive obstacles, as required.
11. Construct combat roads and trails, as required.
12. Construct Landing Zone (LZ), as required.
13. Account for all personnel and equipment prior to returning to friendly lines.
14. Complete administrative actions and submit required reports (records and forms).

REFERENCES:
1. MCRP 3-34.1 Engineer Field Data
2. MCRP 3-34.3 Engineer Reconnaissance
3. MCRP 3-40D.1 Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Road Design
4. MCRP 3-40D.12 Construction Estimating
5. MCRP 3-40D.2 Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Airfield and Heliport Design
6. MCRP 3-40D.4 Concrete and Masonry
7. MCRP 3-40D.6 Construction Project Management
8. MCRP 3-40D.7 Military Soils Engineering
9. MCRP 3-40D.9 Earthmoving Operations
10. MCTP 3-34A Combined Arms Mobility
11. NAVAIR 00-80T-115 Expeditionary Airfield NATOPS Manual

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-HORZ-5001

INTERNAL SUPPORTING EVENTS:
ENGR-EQIP-3003 ENGR-RECN-3003

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17918 Road/Airfield Construction Training Site
Facility Code 17931 Medium/Heavy Equipment Training Area

EQUIPMENT:
- Engineer Construction and Material Handling equipment
- Combat engineer sets
- Motor transport equipment
- Communication equipment

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman
- Engineer equipment operators
- Motor transport operators
- Communicators

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Prior to conducting lift requirements, ensure ground guides demonstrate proper use of standard hand and arm signals to the operator.

ENGR-MANT-4001: Maintain engineer equipment

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: The MWSS engineer company, maintenance platoon possesses an organic capability to conduct organizational maintenance and limited intermediate maintenance of assigned engineer equipment and organizational maintenance of engineer equipment for supported unit(s), except for the elements of the MACG.

CONDITION: With equipment, tools, repair parts, supplies, personnel and Automated Information Systems (AIS), and references.

STANDARD: To sustain Mission Essential Equipment (MEE) in an operational status at or above 80%.

EVENT COMPONENTS:
1. Manage maintenance programs.
2. Manage maintenance programs.
3. Conduct reconciliation.
4. Assign tasks.

5. Conduct Preventive Maintenance Checks and Services (PMCS) on utilities equipment, as required.
6. Conduct corrective maintenance on utilities equipment, as required.
7. Conduct PMCS on Material Handling Equipment, as required.
8. Conduct corrective maintenance on Material Handling Equipment (MHE), as required.
9. Conduct PMCS on construction equipment, as required.
10. Conduct corrective maintenance on construction equipment, as required.
11. Maintain other organic tactical engineer equipment, as required.
12. Complete required quality control actions, as required.
13. Conduct maintenance administrative actions, as required.
14. Submit required reports.

REFERENCES:
1. DoDI 6055.1 DoD Safety and Occupational Health (SOH) Program
2. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
3. MCO 4733.1_ Marine Corps Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
4. MCO 4790.18_ Corrosion Prevention and Control (CPAC) Program
5. MCO 5100.29_ Marine Corps Safety Program
6. MCTP 3-40E Maintenance Operations
7. UM 4000-125 Retail Supply and Maintenance Execution Procedures

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-MANT-5001

INTERNAL SUPPORTING EVENTS:

ENGR-MANT-3001	ENGR-MANT-3002	ENGR-MANT-3003
ENGR-MANT-3004	ENGR-MANT-3005	ENGR-MANT-3006
ENGR-MANT-3007		

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17931 Medium/Heavy Equipment Training Area

EQUIPMENT: Tool/Sets/Chests/Kits for maintaining: Engineer, utilities and bulk fuel equipment

MATERIAL:
- POL
- Hazmat

UNITS/PERSONNEL:
- Licensed operators
- Engineer equipment maintainers (1341)
- Utilities equipment operators (1141, 1161, 1171)
- Utilities equipment maintainers (1142)
- Metal worker (1316)
- Bulk Fuel Specialist (1391)

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: 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. Utilize Risk Management.

ENGR-MOBL-4001: Conduct route improvement

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Route improvement supports airfield/airbase operations, maintains the route and prevents/limits explosive hazard concealment opportunities for the enemy.

CONDITION: Given an operations order, commander's intent, personnel, equipment, engineer reconnaissance reports, and references.

STANDARD: To ensure mobility of ground equipment.

EVENT COMPONENTS:
1. Analyze engineer reconnaissance report(s).
2. Confirm improvement requirements.
3. Move to improvement area.
4. Visually detect explosive and other hazards, as required.
5. Identify surface repairs, as required.
6. Operate engineer equipment, as required.
7. Remove obstructions (i.e., rubble/debris, vegetation, trash), as required.
8. Remove upheaval to required specifications.
9. Remove berms, as required.
10. Place additional fill/stabilization/reinforcement materials, as required.
11. Identify drainage structure repairs, as required.
12. Conduct culvert denial activities, as required.
13. Submit required reports.

REFERENCES:
1. GTA 5-2-5 Engineer Reconnaissance
2. MCRP 3-34.1 Engineer Field Data
3. MCRP 3-34.2 Explosives and Demolitions
4. MCRP 3-34.3 Engineer Reconnaissance
5. MCRP 3-34.4 Engineer Forms and Reports
6. MCRP 3-40D.1 Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Road Design
7. MCRP 3-40D.2 Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Airfield and Heliport Design
8. MCTP 3-34A Combined Arms Mobility

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-HORZ-5001

INTERNAL SUPPORTING EVENTS:
ENGR-EQIP-3002 ENGR-EQIP-3003 ENGR-HORZ-3001
ENGR-RECN-4003

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 (Tools, sets, chests and kits)
- Material Handling Equipment (MHE)
- Construction Equipment (CE)
- Motor Transport
- Communication assets

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Combat engineer personnel
- Corpsman
- Engineer equipment operators
- Motor transport operators
- Communicators

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Prior to conducting lift requirement ensure ground guides demonstrate proper use of standard hand and arm signals to operator.

ENGR-MOBL-4002: Repair runway crater

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.4.1.5

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

READINESS-CODED: NO

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).

CONDITION: Given an operations order, commander's intent, task organized personnel, equipment, damage assessment reports, and references.

STANDARD: To return the air field operating surface to a minimum operational capability within the design criteria.

EVENT COMPONENTS:
1. Analyze engineer reconnaissance report(s).
2. Coordinate crater repair.
3. Confirm repair requirements.
4. Coordinate 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 material, as required.
12. Place geotextile layer(s), as required.
13. Surface repair with foreign object debris cover, as required.
14. Reconstitute crater repair team.
15. Submit required reports.

REFERENCES:
1. MCRP 10-10.1 Countering Explosive Hazards
2. MCRP 3-34.1 Engineer Field Data
3. MCRP 3-34.2 Explosives and Demolitions
4. MCRP 3-34.3 Engineer Reconnaissance
5. MCRP 3-34.4 Engineer Forms and Reports
6. MCTP 3-20B Aviation Ground Support
7. MCTP 3-34A Combined Arms Mobility
8. UFC 3-270-07 Airfield Damage Repair

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-MOBL-5001

INTERNAL SUPPORTING EVENTS:

AOPS-EOD-4004	ENGR-EQIP-3002	ENGR-EQIP-3003
ENGR-EQIP-3004	ENGR-RECN-3002	

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

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

EQUIPMENT:
- ADR Kit
- Combat engineer equipment (Tools, sets, chests and kits)
- Material Handling Equipment (MHE)
- Construction Equipment (CE)
- Motor Transport
- Communication assets

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Combat engineer personnel

- Corpsman
- Engineer equipment operators
- Motor transport operators
- Communicators

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Prior to conducting lift requirement ensure ground guides demonstrate proper use of standard hand and arm signals to operator.

ENGR-MOBL-4003: Repair spall(s)

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.4.1.5

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

READINESS-CODED: NO

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. ADR may be conducted as part of BRAAT. Damage classified as a spall does not reach the base course underneath the operating surface of an airfield or road.

CONDITION: Given an operations order, commander's intent, task organized personnel, equipment, damage assessment reports, and references.

STANDARD: To return the air field operating surface to a minimum operational capability within the design criteria.

EVENT COMPONENTS:
1. Analyze engineer reconnaissance/damage assessment report(s).
2. Coordinate spall repair(s).
3. Confirm repair requirements.
4. Conduct 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.

REFERENCES:
1. MCRP 10-10.1 Countering Explosive Hazards
2. MCRP 3-34.1 Engineer Field Data
3. MCRP 3-34.2 Explosives and Demolitions
4. MCRP 3-34.3 Engineer Reconnaissance
5. MCRP 3-34.4 Engineer Forms and Reports
6. MCTP 3-20B Aviation Ground Support

7. UFC 3-270-07 Airfield Damage Repair

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-MOBL-5001

INTERNAL SUPPORTING EVENTS:
AOPS-EOD-4004 ENGR-EQIP-3002 ENGR-EQIP-3003
ENGR-EQIP-3004 ENGR-RECN-3001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17918 Road/Airfield Construction Training Site

EQUIPMENT:
- ADR Kit
- Combat engineer equipment (Tools, sets, chests and kits)
- Material Handling Equipment (MHE)
- Construction Equipment (CE)
- Motor Transport
- Communication assets

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Combat engineer personnel
- Corpsman - Engineer equipment operators
- Motor transport operators
- Communicators

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Prior to conducting lift requirement ensure ground guides demonstrate proper use of standard hand and arm signals to operator.

ENGR-MOBL-4004: Conduct dismounted route sweep operations (S/L)

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

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.

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

STANDARD: To ensure all explosive/non-explosive hazards are detected, identified, reduced, proofed, and/or marked to provide sufficient mobility.

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. Identify explosive components of obstacle(s).
7. Mark obstacle(s), as required.
8. Bypass 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 Subject Matter Experts (SME) personnel, as required.
13. Submit required reports.

REFERENCES:
1. MCRP 10-10.1 Countering Explosive Hazards
2. MCRP 3-34.2 Explosives and Demolitions
3. MCRP 3-34.3 Engineer Reconnaissance
4. MCRP 3-34.4 Engineer Forms and Reports
5. MCTP 3-34A Combined Arms Mobility
6. MCWP 3-13.2 Mine Warfare

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-MOBL-5003

INTERNAL SUPPORTING EVENTS:
AOPS-EOD-4004 ENGR-RECN-3004

SUPPORT REQUIREMENTS:

SIMULATION EVALUATION:

SIMULATED	SUITABILITY	SIMULATOR	UNIT OF MEASURE	HOURS	PM
Yes	S/L	IIT	Squad Hours	24	Y

ORDNANCE NOTES: Simulation hours are recommendations based on input from engineer SMEs during the Simulation Assessment Working Group (SAWG) in Sept 2015. Assigned hours are not intended to be prescriptive or restrictive. Units are encouraged to catalog actual simulation hours conducted during training in order to update the simulation appendix during the next T&R Manual review.

RANGE/TRAINING AREA:

Facility Code 17830 Light Demolition Range

EQUIPMENT:
- Combat engineer chests, sets and kits
- Mine detectors

- Communications equipment
- Motor transport equipment

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer(RSO)
- Corpsman
- Motor transport operators
- Communicators

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: The recommended types and quantities of ammunition, explosive, pyrotechnics and munitions can be found on ENGRDEMO-5001.

ENGR-MOBL-4005: Employ demolitions in support of mobility operations (S/L)

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

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 and airfield surfaces.

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

STANDARD: To reduce obstacles on designated routes and airfield surfaces to ensure mobility.

EVENT COMPONENTS:
1. Review the mission.
2. Conduct reconnaissance.
3. Coordinate with supporting unit(s) (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.

REFERENCES:
1. MCIP 10-10C MAGTF Counter-Improvised Explosive Device (C-IED) Operations
2. MCRP 10-10.1 Countering Explosive Hazards

3. MCRP 3-34.1 Engineer Field Data
4. MCRP 3-34.2 Explosives and Demolitions
5. MCRP 3-34.4 Engineer Forms and Reports
6. MCTP 3-34B Combined Arms Countermobility Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
AOPS-EAF-5001 ENGR-MOBL-5003

INTERNAL SUPPORTING EVENTS:
ENGR-RECN-4004 ENGR-VERT-3001

SUPPORT REQUIREMENTS:

SIMULATION EVALUATION:

SIMULATED	SUITABILITY	SIMULATOR	UNIT OF MEASURE	HOURS	PM
Yes	S/L	I-TESS (Individual)	Marine Hours	40	Y

RANGE/TRAINING AREA:

Facility Code 17830 Light Demolition Range

EQUIPMENT:
- Combat engineer equipment (Tools, sets, chests and kits)
- Material Handling Equipment (MHE)
- Construction Equipment (CE)
- Motor Transport
- Communication assets

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Combat engineer personnel
- Corpsman
- Engineer equipment operators
- Motor transport operators
- Communicators

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS:
The recommended types and quantities of ammunition, explosive, pyrotechnics and munitions can be found on ENGR-DEMO-5001.
Prior to conducting lift requirement ensure ground guides demonstrate proper use of standard hand and arm signals to operator. Utilize Risk Management.

ENGR-RECN-4001: Conduct site survey

SUPPORTED MET(S):

MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

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 ACE.

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

STANDARD: To determine suitability and produce appropriate forms and reports per MCRP 3-34.4.

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.

REFERENCES:
1. MCRP 3-34.3 Engineer Reconnaissance
2. MCRP 3-34.4 Engineer Forms and Reports
3. MCRP 3-40D.6 Construction Project Management

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-RECN-5001

INTERNAL SUPPORTING EVENTS: ENGR-RECN-3003

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17918 Road/Airfield Construction Training Site

EQUIPMENT: Survey equipment, combat engineer chests, sets and kits, motor transport assets and communications equipment

UNITS/PERSONNEL: Engineer surveyor 1361, motor transport operators and communicator

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ENGR-RECN-4002: Conduct zone reconnaissance (S/L)

SUPPORTED MET(S):

MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Conduct zone reconnaissance to reconnoiter a delineated area to compile pertinent information and to clarify the threat situation, gather obstacle/terrain intelligence, zone infrastructure in support of ACE operations.

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

STANDARD: To gather all relevant engineer data, and produce an engineer reconnaissance report.

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

REFERENCES:
1. MCRP 3-34.1 Engineer Field Data
2. MCRP 3-34.3 Engineer Reconnaissance
3. MCRP 3-34.4 Engineer Forms and Reports

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-RECN-5001

INTERNAL SUPPORTING EVENTS:
ENGR-RECN-3001 ENGR-RECN-3002 ENGR-RECN-3005
ENGR-RECN-3006

SUPPORT REQUIREMENTS:

SIMULATION EVALUATION:

SIMULATED	SUITABILITY	SIMULATOR	UNIT OF MEASURE	HOURS	PM
Yes	S/L	DVTE	Marine Hours	24	Y

NOTES: Simulation hours are recommendations based on input from engineer SMEs during the Simulation Assessment Working Group (SAWG) in Sept 2015. Assigned hours are not intended to be prescriptive or restrictive. Units are encouraged to catalog actual simulation hours conducted during training in order to update the simulation appendix during the next T&R Manual review.

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT:
- Combat engineer chests, sets and kits,
- Motor transport assets
- Communication equipment

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman
- Communicator
- Motor transport operators

ENGR-RECN-4003: Conduct route reconnaissance (S/L)

SUPPORTED MET(S):
MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Conduct route reconnaissance to reconnoiter specific routes to compile pertinent information and to clarify the threat situation, gather obstacle/terrain intelligence, infrastructure in support of ACE operations.

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

STANDARD: To gather all relevant engineer data, and produce an engineer reconnaissance report.

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

REFERENCES:
1. MCRP 3-34.1 Engineer Field Data
2. MCRP 3-34.3 Engineer Reconnaissance

3. MCRP 3-34.4 Engineer Forms and Reports

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-RECN-5001

INTERNAL SUPPORTING EVENTS:
ENGR-RECN-3002 ENGR-RECN-3005 ENGR-RECN-3006

SUPPORT REQUIREMENTS:

SIMULATION EVALUATION:

SIMULATED	SUITABILITY	SIMULATOR	UNIT OF MEASURE	HOURS	PM
Yes	S/L	DVTE	Marine Hours	24	Y

NOTES: Simulation hours are recommendations based on input from engineer SMEs during the Simulation Assessment Working Group (SAWG) in Sept 2015. Assigned hours are not intended to be prescriptive or restrictive. Units are encouraged to catalog actual simulation hours conducted during training in order to update the simulation appendix during the next T&R Manual review.

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT:
- Combat engineer chests, sets and kits
- Motor transport assets
- Communication equipment

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman - Communicator
- Motor transport operators

ENGR-RECN-4004: Conduct area reconnaissance (S/L)

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Conduct area reconnaissance to compile pertinent information, clarify the threat situation, gather obstacle/terrain intelligence, area infrastructure in established lateral boundaries in support of ACE operations.

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

STANDARD: To gather all relevant data, and produce an engineer reconnaissance report.

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

REFERENCES:
1. MCRP 3-34.1 Engineer Field Data
2. MCRP 3-34.3 Engineer Reconnaissance
3. MCRP 3-34.4 Engineer Forms and Reports

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-RECN-5001

INTERNAL SUPPORTING EVENTS:
ENGR-RECN-3002 ENGR-RECN-3005 ENGR-RECN-3006

SUPPORT REQUIREMENTS:

SIMULATION EVALUATION:

SIMULATED	SUITABILITY	SIMULATOR	UNIT OF MEASURE	HOURS	PM
Yes	S/L	DVTE	Marine Hours	24	Y

NOTES: Simulation hours are recommendations based on input from engineer SMEs during the Simulation Assessment Working Group (SAWG) in Sept 2015. Assigned hours are not intended to be prescriptive or restrictive. Units are encouraged to catalog actual simulation hours conducted during training in order to update the simulation appendix during the next T&R Manual review.

RANGE/TRAINING AREA:

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

EQUIPMENT:
- Combat engineer chests, sets and kits
- Motor transport assets
- Communication equipment

UNITS/PERSONNEL:

- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman
- Communicator
- Motor transport operators

ENGR-SURV-4001: Harden existing structure

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5
MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: Harden existing structure helps to avoid or withstand hostile actions and is accomplished by using barriers, walls, shields, berms or other types of physical protection in order to reduce the vulnerability of personnel, equipment, weapons, and supplies to enemy fire and as a means to enhance force protection within the ACE.

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

STANDARD: To mitigate effects of enemy weapons systems and improving structural integrity.

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. Movement to site.
6. Conduct site preparation.
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 pre-detonation screen, as required.
16. Provide tactical power, as required.
17. Submit required reports.

REFERENCES:
1. MCRP 3-34.1 Engineer Field Data
2. MCRP 3-34.3 Engineer Reconnaissance
3. MCRP 3-34.4 Engineer Forms and Reports
4. MCRP 3-40D.3 Carpentry
5. MCRP 3-40D.4 Concrete and Masonry
6. MCRP 3-40D.6 Construction Project Management

7. MCRP 3-40D.9 Earthmoving Operations
8. MCTP 3-34C Survivability Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-SURV-5002

INTERNAL SUPPORTING EVENTS:

ENGR-EQIP-3003	ENGR-RECN-4001	ENGR-SURV-3004
ENGR-SURV-3005	ENGR-SURV-3006	ENGR-UTIL-4001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17420 Maneuver/Training Area, Heavy Forces

EQUIPMENT:
- Material Handling Equipment (MHE)
- Combat engineer chests, sets and kits
- Construction Equipment (CE)
- Motor transport assets
- Communication equipment

UNITS/PERSONNEL:
- Officer in Charge
- Range Safety Officer
- Corpsman
- Engineer equipment operators
- Motor transport operators
- Communicators

ENGR-SURV-4002: Construct field fortifications

SUPPORTED MET(S):

MCT 1.12.5.1.1	MCT 1.12.5.1.2	MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

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 within the ACE.

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

STANDARD: To mitigate threat of enemy weapons systems while increasing survivability.

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.
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.

REFERENCES:
1. MCRP 12-10B.1 Military Operations on Urbanized Terrain
2. MCRP 3-34.1 Engineer Field Data
3. MCRP 3-34.3 Engineer Reconnaissance
4. MCRP 3-40D.3 Carpentry
5. MCTP 3-34B Combined Arms Countermobility Operations
6. MCTP 3-34C Survivability Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-SURV-5001

INTERNAL SUPPORTING EVENTS:

ENGR-EQIP-3003	ENGR-RECN-4001	ENGR-SURV-3003
ENGR-SURV-3004	ENGR-SURV-3006	ENGR-UTIL-4001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17420 Maneuver/Training Area, Heavy Forces

EQUIPMENT:
- Material Handling Equipment (MHE)
- Combat engineer chests, sets and kits
- Construction Equipment (CE)
- Utilities equipment
- Motor transport assets
- Communication equipment

UNITS/PERSONNEL:
- Officer in Charge
- Range Safety Officer
- Corpsman
- Engineer equipment operators
- Utilities personnel

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

SUPPORTED MET(S):

MCT 1.12.5.1.2 MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: Construction of a Vehicle Control Point (VCP) will improve control, restrict and monitor movement of personnel and equipment and to gain information/data on suspected vehicles during military operations for the ACE.

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

STANDARD: To maintain control of vehicles, pedestrians, and materials in accordance with force protection plan.

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

REFERENCES:
1. MCRP 3-34.1 Engineer Field Data
2. MCRP 3-34.3 Engineer Reconnaissance
3. MCRP 3-40D.3 Carpentry
4. MCTP 3-34B Combined Arms Countermobility Operations
5. MCTP 3-34C Survivability Operations
6. MCWP 3-34 Engineering Operations
7. MCWP 3-41.1 Rear Area Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-SURV-5001

INTERNAL SUPPORTING EVENTS:

ENGR-EQIP-3002	ENGR-EQIP-3003	ENGR-SURV-3002
ENGR-SURV-3003	ENGR-SURV-3004	ENGR-SURV-3006
ENGR-UTIL-4001		

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT:
- Material Handling Equipment (MHE)
- Combat engineer chests, sets and kits
- Construction Equipment (CE)
- Utilities equipment
- Motor transport assets
- Communication equipment

MATERIAL:
- Map
- Compass
- Protractor
- Overlay sheets
- Reconnaissance reports
- Class IV supplies

UNITS/PERSONNEL:
- Officer in Charge
- Range Safety Officer
- Corpsman
- Engineer equipment operators
- Utilities personnel
- Motor transport operators
- Communicators

ENGR-SURV-4004: Construct Entry Control Point (ECP)

SUPPORTED MET(S):
MCT 1.12.5.1.2 MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: Construct Entry Control Point to control entry and exit of personnel, vehicles, materials, and to prevent entry of unauthorized personnel. ECPs should be designed/constructed that detect or deter attacks, especially at the entrance to the airbase, flight line and critical infrastructure. Properly designed ECPs protect facilities and personnel occupying the ECP while allowing for organized and efficient traffic flow. A well-organized ECP minimizes confusion and allows the rapid flow of vehicles and personnel while minimizing the threat of attack to the ACE.

CONDITION: Provided a mission, commander's intent, intelligence reports, task organized personnel, equipment, supplies and references.

STANDARD: To maintain control of vehicles, pedestrians, and materials in accordance with force protection plan.

EVENT COMPONENTS:
1. Review mission.
2. Review force protection requirements.

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

REFERENCES:
1. MCRP 3-34.1 Engineer Field Data
2. MCRP 3-34.4 Engineer Forms and Reports
3. MCTP 3-34B Combined Arms Countermobility Operations
4. MCTP 3-34C Survivability Operations
5. MCWP 3-34 Engineering Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-SURV-5001

INTERNAL SUPPORTING EVENTS:

ENGR-EQIP-3003	ENGR-RECN-3003	ENGR-SURV-3002
ENGR-SURV-3003	ENGR-SURV-3004	ENGR-SURV-3006
ENGR-UTIL-4001		

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT:
- Material Handling Equipment (MHE)
- Combat engineer chests, sets and kits
- Construction Equipment (CE)
- Utilities equipment
- Motor transport assets
- Communication equipment

MATERIAL:
- Map
- Compass
- Protractor
- Overlay sheets
- Reconnaissance reports
- Class IV supplies

UNITS/PERSONNEL:
- Officer in Charge
- Range Safety Officer
- Corpsman

- Engineer equipment operators
- Utilities personnel
- Motor transport operators
- Communicators

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

SUPPORTED MET(S):
MCT 1.12.5.1.2 MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: To provide blast mitigation for personnel and equipment in support of Airfield Security Operations.

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

STANDARD: To mitigate effects of enemy weapons systems while increasing survivability in support of the force protection plan.

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

REFERENCES:
1. MCRP 3-34.1 Engineer Field Data
2. MCRP 3-34.3 Engineer Reconnaissance
3. MCRP 3-40D.9 Earthmoving Operations
4. MCTP 3-34C Survivability Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-SURV-5001

INTERNAL SUPPORTING EVENTS:
ENGR-EQIP-3002 ENGR-EQIP-3003 ENGR-RECN-3003
ENGR-SURV-3001 ENGR-SURV-3006

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT:
- Material Handling Equipment (MHE)

- Combat engineer chests, sets and kits
- Construction Equipment (CE)
- Utilities equipment
- Motor transport assets
- Communication equipment

UNITS/PERSONNEL:
- Officer in Charge
- Range Safety Officer
- Corpsman
- Engineer equipment operators
- Utilities personnel
- Motor transport operators
- Communicators

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

SUPPORTED MET(S):
MCT 1.12.5.1.2 MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: Employ demolitions in support of survivability operations for the ACE 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, task organized personnel, equipment, Class V supplies, personal protective equipment (PPE), and references.

STANDARD: To enhance survivability positions, clear fields of fire, and reduce natural or man-made obstacles.

EVENT COMPONENTS:
1. Review the mission.
2. Coordinate with supporting unit(s).
3. Prepare personnel and equipment for mission requirements, as required.
4. Conduct final coordination with supported unit (location, requirements, security, etc.), as required.
5. Clear fields of fire, as required.
6. Reduce natural or man-made obstacles.
7. Emplace early warning devices, as required.
8. Place expedient explosive devices to support positions, as required.
9. Mark fortifications/explosive devices, as required.
10. Reconstitute force, as required.
11. Submit required reports.

REFERENCES:
1. MCRP 10-10.1 Countering Explosive Hazards
2. MCRP 3-34.1 Engineer Field Data
3. MCRP 3-34.2 Explosives and Demolitions
4. MCRP 3-34.4 Engineer Forms and Reports

5. MCTP 3-34C Survivability Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-SURV-5001

INTERNAL SUPPORTING EVENTS:

ENGR-CMOB-3001	ENGR-RECN-3003	ENGR-SURV-3001
ENGR-SURV-3002	ENGR-SURV-3003	ENGR-SURV-3006

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17830 Light Demolition Range

EQUIPMENT:
- Material Handling Equipment (MHE)
- Combat engineer equipment (Tools, sets, chests and kits)
- Construction Equipment (CE)
- Motor Transport
- Communication assets

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman
- Engineer equipment operators
- Motor transport operators
- Communicator

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: The recommended types and quantities of ammunition, explosive, pyrotechnics and munitions can be found on ENGR-DEMO-5001.

ENGR-SURV-4007: Construct vehicle protective position

SUPPORTED MET(S):

MCT 1.12.5.1.1	MCT 1.12.5.1.2	MCT 1.4.1.5
MCT 6.1.1.3.4.1		

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

READINESS-CODED: NO

DESCRIPTION: Vehicle fighting positions include fighting and protective positions for major weapons systems vehicles and their support equipment. Initially, vehicles use natural cover and concealment in hide positions to increase survivability. As time, assets, and situation permit, positions are prepared using engineer support. Priority is given to those vehicles containing essential critical equipment or supplies.

CONDITION: Given a requirement, personnel, engineer equipment, and materials..

STANDARD: To build vehicle survivability position(s) (Revetment) to meet or exceed the mission requirement.

EVENT COMPONENTS:
1. Review design specifications.
2. Prepare equipment for operation.
3. Dig hull defilade, as required.
4. Dig turret defilade, as required.
5. Dig concealed access or ramp, as required.
6. Dig hide position, as required.
7. Mark position.
8. Inspect and repair, as required.

REFERENCES:
1. MCRP 3-34.1 Engineer Field Data
2. MCTP 3-30C Rear Area Operations
3. MCTP 3-34C Survivability Operations
4. MCWP 3-34 Engineering Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-SURV-5001

INTERNAL SUPPORTING EVENTS:
ENGR-EQIP-3002 ENGR-EQIP-3003 ENGR-SURV-3001
ENGR-SURV-3006

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17830 Light Demolition Range

EQUIPMENT:
- Material Handling Equipment (MHE)
- Combat engineer equipment (Tools, sets, chests and kits)
- Construction Equipment (CE)
- Motor Transport
- Communication assets

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman
- Engineer equipment operators
- Motor transport operators
- Communicator

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Prior to conducting lift requirement ensure ground guides demonstrate proper use of standard hand and arm signals to operator.

ENGR-UTIL-4001: Provide electrical power

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: Plan and coordinate power generation/electrical distribution in support of ACE operations.

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

STANDARD: To provide electrical power and distribution in support of mission requirements.

EVENT COMPONENTS:
1. Plan 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.

REFERENCES: MCRP 3-40D.11 Theater of Operations Electrical Systems

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

ENGR-SURV-4001	ENGR-SURV-4002	ENGR-SURV-4003
ENGR-SURV-4004	ENGR-UTIL-5001	

INTERNAL SUPPORTING EVENTS:

ENGR-UTIL-3001	ENGR-UTIL-3003	ENGR-UTIL-3004

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT:
- Utilities equipment
- Material Handling Equipment (MHE)
- Motor Transport equipment

MATERIAL:
- POLs
- Hazardous Material Kits
- Spill containment kits
- Fuel

ENGR-UTIL-4002: Provide potable water

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: Produce, store, and distribute potable water in support of ACE operations.

CONDITION: Given a utilities plan, personnel, equipment, and references.

STANDARD: To support mission requirements.

EVENT COMPONENTS:
1. Perform water recon.
2. Establish water point.
3. Produce potable water.
4. Store potable water.
5. Establish water distribution point(s) and method of delivery.
6. Submit required reports.

REFERENCES: MCRP 3-40D.14 Water Support Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-UTIL-5001

INTERNAL SUPPORTING EVENTS:
ENGR-EQIP-3002 ENGR-MANT-3004 ENGR-UTIL-3007
ENGR-UTIL-3008

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17924 Water Supply Training Area

EQUIPMENT:
- Utilities equipment with supplemental kits (cartridges, NBC filters, etc.)
- Material Handling Equipment (MHE)
- Water testing kit
- Tool kits
- Motor transport assets
- Communication equipment
- Personal Protective Equipment (PPE)

MATERIAL: Chemicals to purify raw water source.

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)

- Corpsman
- Engineer equipment operators
- Motor transport operators
- Utilities personnel
- Communicator

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Request Navy Medical Technician and Preventive Medicine Technician (PMT) as required.

ENGR-UTIL-4003: Provide hygiene support

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: To increase habitability during sustained operations, an MWSS is capable of providing laundry, shower, and field sanitation in support of ACE operations.

CONDITION: Given a utilities plan, equipment, personnel and references.

STANDARD: To support of mission requirements.

EVENT COMPONENTS:
1. Establish shower facilities.
2. Establish laundry facilities.
3. Supervise field sanitation, as required.
4. Maintain utilities equipment, as required.
5. Submit reports, as required.

REFERENCES:
1. Appropriate Technical Manuals
2. MCRP 3-40A.4 Field Hygiene and Sanitation

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-UTIL-5001

INTERNAL SUPPORTING EVENTS:

ENGR-EQIP-3002	ENGR-MANT-3004	ENGR-MANT-3005
ENGR-UTIL-3010	ENGR-UTIL-3011	ENGR-UTIL-4002
MTCO-OPS-4001		

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT:
- Utilities equipment
- Material Handling Equipment
- Motor transport assets
- Communication equipment
- Personal Protective Equipment (PPE)

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

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman
- Engineer equipment operators
- Motor transport operators
- Utilities personnel
- Communicators

ENGR-VERT-4001: Construct manufactured steel structure

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Any steel structures to include but not limited to K-Spans, butler buildings, pre-engineered buildings, framed shelters w/vinyl covers, etc. in support of ACE operations.

CONDITION: Given design specifications, steel structure components, construction materials, task organized personnel, equipment and references.

STANDARD: That meets manufacturer specifications.

EVENT COMPONENTS:
1. Review construction plans and schematics.
2. Review engineer reconnaissance and survey.
3. Conduct site preparation as required.
4. Operate/employ engineer equipment and kits.
5. Construct/install foundation, as required.
6. Construct/install flooring, as required.
7. Construct/install structure(s), as required.
8. Construct/install doors, as required.
9. Construct/install windows, as required.
10. Submit required reports.

REFERENCES:
1. MCRP 3-34.1 Engineer Field Data
2. MCRP 3-40D.3 Carpentry
3. MCRP 3-40D.4 Concrete and Masonry
4. MCRP 3-40D.6 Construction Project Management

5. MCTP 3-40D General Engineering

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-VERT-5001

INTERNAL SUPPORTING EVENTS:

ENGR-EQIP-3001	ENGR-EQIP-3002	ENGR-EQIP-3003
ENGR-UTIL-3002	ENGR-UTIL-3003	ENGR-UTIL-3004
MTCO-OPS-4001		

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT:
- Material Handling Equipment (MHE)
- Construction Equipment (CE)
- Combat engineer chests, sets and kits
- Utilities equipment
- Marine Corps Tactical Welding System (MCTWS)
- Motor transport assets
- Communication equipment

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman
- Motor transport operators
- Engineer equipment operators
- Utilities personnel
- Welders
- Communicators

ENGR-VERT-4002: Construct wood frame structure

SUPPORTED MET(S):

MCT 1.12.5.1.1	MCT 1.12.5.1.2	MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Construct wood frame structures for use in all operations conducted to include but not limited to strong backs, sheds, facilities, SEA/SWA huts, etc., or may be specified in mission directives in support of ACE operations.

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

STANDARD: That meet the requirements listed in the design specifications.

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

REFERENCES:
1. MCRP 3-40D.12 Construction Estimating
2. MCRP 3-40D.3 Carpentry
3. MCRP 3-40D.6 Construction Project Management
4. MCTP 3-40D General Engineering

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-VERT-5001

INTERNAL SUPPORTING EVENTS:

ENGR-EQIP-3001	ENGR-EQIP-3002	ENGR-EQIP-3003
ENGR-UTIL-3002	ENGR-UTIL-3003	ENGR-UTIL-3004
MTCO-OPS-4001		

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17330 Covered Training Area
Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT:
- Material Handling Equipment
- Construction Equipment
- Combat engineer chests, sets and kits
- Utilities equipment
- Motor Transport assets
- Communications equipment

MATERIAL: Electrical and fuel requirements

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman
- Motor transport operators
- Engineer equipment operators
- Utilities personnel
- Communicator

ENGR-VERT-4003: Construct concrete block structure

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: 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.) in support of ACE operations.

CONDITION: Given a requirement, task organized personnel, equipment, design specifications, construction materials and references.

STANDARD: That meet the requirements listed in the design specifications.

EVENT COMPONENTS:
1. Review construction plans and schematics.
2. Review engineer reconnaissance and survey.
3. Conduct site preparation, as required.
4. Operate/employ engineer equipment and kits.
5. Construct/install foundation, as required.
6. Construct/install wall structure(s), as required.
7. Place opening(s), as required.
8. Construct/place roof, as required.
9. Construct/install doors, as required.
10. Construct/install windows, as required.
11. Submit required reports.

REFERENCES:
1. MCRP 3-34.1 Engineer Field Data
2. MCRP 3-34.4 Engineer Forms and Reports
3. MCRP 3-40D.3 Carpentry
4. MCRP 3-40D.4 Concrete and Masonry
5. MCRP 3-40D.6 Construction Project Management

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-VERT-5001

INTERNAL SUPPORTING EVENTS:
ENGR-EQIP-3001 ENGR-EQIP-3002 ENGR-EQIP-3003
ENGR-UTIL-3002 ENGR-UTIL-3003 ENGR-UTIL-3004
MTCO-OPS-4001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17330 Covered Training Area
Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT:
- Material Handling Equipment (MHE)
- Construction Equipment (CE)
- Combat engineer chests, sets and kits
- Utilities equipment
- Communications equipment
- Motor transport assets

MATERIAL: Portland cement, coarse and fine aggregate, ad-mixture

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman
- Motor transport operators
- Engineer equipment operators
- Utilities personnel
- Communicators

ENGR-VERT-4004: Construct timber structure

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5
MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: 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 in support of ACE operations.

CONDITION: Given a requirement, task organized personnel, equipment, design specifications, construction materials and references.

STANDARD: That meets the requirements listed in the design specifications.

EVENT COMPONENTS:
1. Review construction plans and schematics.
2. Review engineer reconnaissance and survey.
3. Conduct site preparation.
4. Operate/employ engineer equipment and kits.
5. Construct/prefabricate structures, as required.
6. Emplace structures, as required.
7. Construct/install wall structure(s), as required.
8. Construct/install roof structure/components, as required.
9. Construct/install doors, as required.
10. Construct/install windows, as required.
11. Sandbag structure, as required.

12. Camouflage as required.
13. Install grenade sumps, as required.
14. Submit required reports.

REFERENCES:
1. MCRP 3-40D.12 Construction Estimating
2. MCRP 3-40D.3 Carpentry
3. MCRP 3-40D.6 Construction Project Management
4. MCTP 3-34C Survivability Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-VERT-5001

INTERNAL SUPPORTING EVENTS:

ENGR-EQIP-3001	ENGR-EQIP-3002	ENGR-EQIP-3003
ENGR-UTIL-3002	ENGR-UTIL-3003	ENGR-UTIL-3004
ENGR-VERT-3001	MTCO-OPS-4001	

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT:
- Material Handling Equipment (MHE)
- Construction Equipment (CE)
- Combat engineer chests, sets and kits
- Utilities equipment
- Communications equipment
- Motor transport assets

UNITS/PERSONNEL:
UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman
- Motor transport operators
- Engineer equipment operators
- Utilities personnel
- Communicators

ENGR-VERT-4005: Repair existing structures

SUPPORTED MET(S):

MCT 1.12.5.1.1	MCT 1.12.5.1.2	MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Engineers will conduct this task for any type of structure (wood, concrete, steel, bridges, etc.) or facilities that have been damaged/flawed or are incorrect per design specifications in support of ACE operations.

CONDITION: Given a requirement, task organized personnel, equipment, structure/facility in need of repair, construction materials and references.

STANDARD: To meet the original design requirements/specifications to restore structure or facilities.

EVENT COMPONENTS:
1. Review construction plans and schematics, as required.
2. Review engineer reconnaissance and survey, as required.
3. Conduct site preparation, as required.
4. Operate/employ engineer equipment and kits.
5. Repair/replace structural components, as required.
6. Coordinate/repair/replace electrical, as required.
7. Submit required reports.

REFERENCES:
1. MCRP 3-40D.3 Carpentry
2. MCRP 3-40D.4 Concrete and Masonry
3. MCRP 3-40D.6 Construction Project Management
4. MCTP 3-34C Survivability Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-VERT-5001

INTERNAL SUPPORTING EVENTS:

ENGR-EQIP-3001	ENGR-EQIP-3002	ENGR-EQIP-3003
ENGR-RECN-3002	ENGR-UTIL-3002	ENGR-UTIL-3003
ENGR-UTIL-3004		

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT:
- Material Handling Equipment (MHE)
- Construction Equipment (CE)
- Combat engineer chests, sets and kits
- Utilities equipment
- Communications equipment
- Motor transport assets

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman
- Motor transport operators
- Engineer equipment operators
- Utilities personnel
- Communicators

ENGR-VERT-4006: Construct Concrete Structure

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Construction of concrete structures not limited to wing walls, buildings, foundations, retaining walls, etc., or as specified in mission directives.

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

STANDARD: To meet the requirements listed in the design specifications.

EVENT COMPONENTS:
1. Review construction plans and schematics.
2. Review engineer reconnaissance and survey.
3. Conduct site preparation.
4. Operate/employ engineer equipment and kits.
5. Construct/install form work for footers, as required.
6. Construct/install form work for walls, as required.
7. Place reinforcement material, as required.
8. Place concrete for footer(s,) as required.
9. Place concrete for wall(s), as required.
10. Place concrete for slab(s), as required.
11. Consolidate concrete, as required.
12. Finish concrete, as required.
13. Remove forms, as required.
14. Conduct equipment maintenance.
15. Submit required reports.

REFERENCES:
1. MCRP 3-40D.3 Carpentry
2. MCRP 3-40D.4 Concrete and Masonry
3. MCRP 3-40D.6 Construction Project Management

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-VERT-5001

INTERNAL SUPPORTING EVENTS:
ENGR-EQIP-3001 ENGR-EQIP-3002 ENGR-EQIP-3003
ENGR-UTIL-3002 ENGR-UTIL-3003 ENGR-UTIL-3004
MTCO-OPS-4001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17918 Road/Airfield Construction Training Site

EQUIPMENT:
- Material Handling Equipment (MHE)
- Construction Equipment (CE)
- Combat engineer chests, sets and kits
- Utilities equipment
- Communications equipment
- Motor transport assets

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman
- Motor transport operators
- Engineer equipment operators
- Utilities personnel
- Communicators

ENGR-VERT-4007: Construct expedient drainage structure

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: 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 requirement, task organized personnel, equipment, design specifications, construction materials, and references.

STANDARD: To meet the requirements listed in the design specifications.

EVENT COMPONENTS:
1. Review construction plans and schematics.
2. Review engineer reconnaissance and survey.
3. Acquire resources needed for project.
4. Conduct site preparation.
5. Operate/employ engineer equipment and kits.
6. Construct expedient ditch relief culverts, as required.
7. Construct expedient log culverts, as required.
8. Construct oil drum culvert, as required.
9. Construct sandbag culvert, as required.
10. Cover expedient culverts, as required.
11. Construct expedient head/wing walls, as required.
12. Submit required reports.

REFERENCES:
1. MCRP 3-34.1 Engineer Field Data

2. MCRP 3-34.4 Engineer Forms and Reports
3. MCRP 3-40D.1 Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Road Design
4. MCRP 3-40D.2 Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Airfield and Heliport Design
5. MCRP 3-40D.5 Plumbing, Pipe Fitting, and Sewerage
6. MCRP 3-40D.6 Construction Project Management

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-VERT-5001

INTERNAL SUPPORTING EVENTS:
ENGR-EQIP-3002 ENGR-EQIP-3003

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT:
- Material Handling Equipment (MHE)
- Construction Equipment (CE)
- Combat engineer chests, sets and kits
- Utilities equipment
- Communications equipment
- Motor transport assets

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman
- Motor transport operators
- Engineer equipment operators
- Utilities personnel
- Communicators

HQCO-COMM-4001: Establish data network services

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: The Section will employ data network resources IAW the Data Network Plan utilizing all necessary support assets. Examples of successful tasks include the installation of switches, routers, servers and boundary protection devices to provide access to secure/non-secure email, web browsing and other required data network services.

CONDITION: Given a mission, a data network plan, all equipment and personnel, an approved certification and accreditation package, and an existing digital backbone.

STANDARD: Within 48 hours to satisfy the commander's information exchange requirements.

EVENT COMPONENTS:
1. Install network architecture.
2. Implement computer network defense.
3. Install network services.
4. Provide end user support.

REFERENCES:
1. CJCSM 6231 (Series) Manual for Employing Joint Tactical Communications
2. JP 6-0 Joint Communications System
3. MCTP 3-30B.2 MAGTF Communications System

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

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

HQCO-MED-4001: Coordinate patient movement

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: Patient movement is a system that provides a continuum of care and coordinates the movement of patients from point of injury or onset of disease through successive levels of medical care, to an appropriate taxonomy of care that can meet the needs of the patient. Prompt movement of casualties through the evacuation system to treatment facilities is essential to decrease morbidity and mortality.

CONDITION: Given a patient, personnel, equipment, supplies, and a mode of transport.

STANDARD: To evacuate patients to higher level of care.

EVENT COMPONENTS:
1. Receive casualty evacuation request.
2. Determine means of casualty movement.
3. Determine casualty destination facility.
4. Coordinate through Direct Air Support Center (DASC) for air support as needed.
5. Notify AGSOC, as required.
6. Track casualty movement.

REFERENCES:
1. MCRP 3-40A.7 Patient Movement
2. MCTP 3-40A Health Service Support Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
HQCO-MED-5001 HQCO-MED-5002

INTERNAL SUPPORTING EVENTS:
HQCO-MED-3001 HQCO-MED-3002 HQCO-MED-3003
HQCO-MED-3004

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17413 Field Training Area

HQCO-NET-4001: Provide network services

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: The section will employ network resources IAW the network plan utilizing all necessary support assets. Network services are also referred to as Department of Defense information network (DODIN) operations.

CONDITION: Provided a command's mission, operational tasking and associated planning documentation, a network plan, an approved certification and accreditation package, documentation, references, an existing digital backbone, and equipment and personnel.

STANDARD: Within 72 hours, and satisfying the commander's network services requirements.

EVENT COMPONENTS:
1. Plan network services.
2. Establish network architecture.
3. Establish network services.
4. Extend network services.
5. Conduct DODIN operations.
6. Enforce cybersecurity policies.
7. Support help desk.

REFERENCES:
1. CJCSM 6231 SERIES Manual for Employing Joint Tactical Communication
2. DODI 8570.01-M Information Assurance Workforce Improvement Program
3. JP 3-12 Cyberspace Operations

4. JP 6-0 Joint Communications System
5. MCTP 3-20B Aviation Ground Support
6. MCTP 3-30B.2 MAGTF Communications System
7. Unit SOP Unit's Standing Operating Procedures

HQCO-OPS-4001: Conduct Damage Assessment Team (DAT) activities

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: The DATs are responsible for reconnoitering and surveying the airfield for damage such as craters, spalls, and unexploded ordnance (UXO) on the runway, taxiway, parking aprons and damage to EAF equipment that is required to conduct flight operations from the MOS. The DATs report airfield damage directly to the AGSOC. The number of teams should be based on the number of runways and airfield operating surfaces that need to be maintained. Often, the more DATs that can be fielded, the quicker battle damage can be determined and the airfield recovered. To shorten airfield restoration time, runway damage assessment and UXO assessment can be done simultaneously.

CONDITION: Given, an operations order, commander's intent, task organized personnel, equipment, and references.

STANDARD: To conduct ground assessment of UXO locations, bomb damage and to provide the AGSOC with an accurate report of airfield damage.

EVENT COMPONENTS:
1. Receive the order.
2. Task organize.
3. Conduct reconnaissance of the airfield.
4. Conduct reconnaissance of the airfield support facilities.
5. Survey the airfield.
6. Survey the airfield support facilities.
7. Record damage of areas assessed.
8. Report damage assessment to MOS selection team
9. Submit report to the AGSOC.

REFERENCES: MCTP 3-20B Aviation Ground Support

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
ENGR-MOBL-4002 ENGR-MOBL-4003 ENGR-MOBL-5001
HQCO-OPS-5001

INTERNAL SUPPORTING EVENTS:
AOPS-EOD-4004 ENGR-RECN-3001 ENGR-RECN-3002

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17330 Covered Training Area
Facility Code 17410 Maneuver/Training Area, Light Forces

UNITS/PERSONNEL:
- Team Leader (80XX)
- EOD Team (Two x MOS 2305/2336)
- Radio operator/driver
- Spall damage assessor (MOS 7011)
- Two crater damage assessors (MOS 1371)

HQCO-OPS-4002: Conduct Damage Assessment and Response Team (DART) activities

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: DARTs assess damage to designated critical equipment and infrastructure, report the presence of unexploded ordnance (UXO), and isolate utility disruptions. Three teams are normally sufficient for a main air base. The number and personnel skill mix vary in a DART, permitting each DART to perform damage assessment on equipment and infrastructure. Personnel chosen should have technical expertise appropriate to the damage to be assessed (electrical, mechanical or structural).

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

STANDARD: To provide the AGSOC with a report of damage to designated critical equipment and infrastructure, report the presence of UXO, and isolate utility disruptions.

EVENT COMPONENTS:
1. Receive the order.
2. Task organize.
3. Assess damage to command posts directly related to combat flying squadrons.
4. Assess damage to control facilities directly related to combat flying squadrons.
5. Assess damage to communications facilities.
6. Assess damage to POL areas.
7. Assess damage to munitions facilities.
8. Assess damage to fire stations.
9. Assess damage to medical facilities.
10. Assess damage to utility plants.
11. Assess damage to distribution stations.
12. Record damage of areas assessed.
13. Submit report to the AGSOC.

REFERENCES: MCTP 3-20B Aviation Ground Support

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
ENGR-MOBL-4002 ENGR-MOBL-4003 HQCO-OPS-5001

INTERNAL SUPPORTING EVENTS:
AOPS-EOD-4004 ENGR-RECN-3001 ENGR-RECN-3002

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17330 Covered Training Area
Facility Code 17410 Maneuver/Training Area, Light Forces

HQCO-OPS-4003: Provide access to DISN services

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: The section will provide DISN STEP access and IOM all required communication and support assets IOT provide certified and accredited classified/unclassified transmission, network, data, cybersecurity services in support of end user communications, enabling command and control.

CONDITION: Given a command's mission, operational tasking and associated planning documentation, a communications plan, required equipment staged and ready, an approved certification and accreditation package, documentation, references, and personnel.

STANDARD: Within 36 hours, and satisfying the commander's communication requirements.

EVENT COMPONENTS:
1. Embark unit.
2. Establish field power, as required.
3. Establish technical control.
4. Establish transmission services as required.
5. Establish network services, as required.
6. Establish data services, as required.
7. Establish data services, as required.
8. Develop information security services.

REFERENCES:
1. CJCSM 6231 SERIES Manual for Employing Joint Tactical Communication
2. JP 6-0 Joint Communications System
3. MCTP 3-20B Aviation Ground Support
4. MCTP 3-30B.2 MAGTF Communications System

CHAINED EVENTS:

INTERNAL SUPPORTING EVENTS:

HQCO-DATA-3001	HQCO-NET-3001	HQCO-NET-3002
HQCO-OPS-3001	HQCO-OPS-3002	

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Field power is provided by the 1100 occupational field, Utilities. Refer to NAVMC 3500.12_ Engineers & Utilities T&R Manual for T&R events relating to field power, including 0600 occupational field Marines performing incidental operation of utilities equipment.

HQCO-OPS-4004: Establish a communications site

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: The squad/section will establish a communication site that is scalable IAW operation requirements.

CONDITION: Provided a command's mission, a communications site plan, documents, and required equipment and personnel.

STANDARD: Supporting operational requirements and in accordance with the communications plan.

EVENT COMPONENTS:
1. Conduct site survey.
2. Embark unit.
3. Conduct movement to site.
4. Implement force protection measures.
5. Execute communications site plan.
6. Establish field power.

REFERENCES:
1. CJCSM 6231.01_ Manual for Employing Joint Tactical Communications (Joint Systems Management)
2. JP 6-0 Joint Communications System
3. MCTP 3-20B Aviation Ground Support
4. MCTP 3-30B.2 MAGTF Communications System

CHAINED EVENTS:

INTERNAL SUPPORTING EVENTS:

HQCO-DATA-3001	HQCO-NET-3001	HQCO-NET-3002

MTCO-OPS-4001: Conduct convoy operations (L/S)

SUPPORTED MET(S):
MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: A tactical convoy is a deliberate planned combat operation to move personnel and/or cargo via ground transportation in a secure manner under the control of a single commander. Tactical convoys must have access to the current common operational picture and maintain an aggressive posture that is both agile and unpredictable. Contact with the enemy can be mitigated by security and detailed planning/coordination; however, the convoy should be prepared to take immediate action against any enemy threat. One of the main enemy tactics on the nonlinear battlefield is to target soft targets, lines of communication, and supplies.

CONDITION: Given an operations order, vehicles, personnel, required tools, and equipment.

STANDARD: To achieve operational objectives in accordance with mission requirements and arrive at a determined location with all required equipment and personnel.

EVENT COMPONENTS:
1. Analyze the operation order.
2. Draft a movement order.
3. Identify classifications for routes.
4. Conduct a convoy commander's brief.
5. Create a defense plan for tactical convoy.
6. Establish convoy communication.
7. Perform land navigation (convoy).
8. Conduct a debrief.
9. Prepare a convoy commander's after action report.

REFERENCES:
1. MCRP 3-34.3 Engineer Reconnaissance
2. MCRP 3-40-3_ Multi-Service Communications Procedures and Tactical Radio Procedures in Joint Environment
3. MCRP 3-40F.7 Multi-Service Tactics, Techniques, and Procedures for Tactical Convoy Operations (TCO)
4. MCRP 4-11.3F Convoy Operations Handbook
5. MCRP 4-11.4A Recovery and Battle Damage Assessment and Repair
6. MCTP 3-20B Aviation Ground Support
7. MCTP 3-34A Combined Arms Mobility
8. MCTP 3-40E Maintenance Operations
9. MCTP 3-40F Transportation Operations
10. MCWP 5-10 Marine Corps Planning Process
11. TM 11240-15/B Principal Technical Characteristics of U.S. Marine Corps Motor Transportation Equipment

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

ENGR-CMOB-4002	ENGR-EQIP-4001	ENGR-HORZ-4001
MTCO-OPS-5001		

INTERNAL SUPPORTING EVENTS:

3531-ADMN-2101	3531-ADMN-2102	3531-OPER-1001
3531-OPER-1002	3531-OPER-2202	3531-OPER-2203
3531-OPER-2204	3531-OPER-2205	3531-OPER-2206
3531-OPER-2208	3531-OPER-2211	3531-OPER-2212
3531-OPER-2213	3531-OPER-2214	3531-OPER-2215
3534-OPER-2001	3536-OPER-2001	3537-ADMN-2101
3537-ADMN-2102	3537-MAIN-2101	3537-MAIN-2102
3537-OPER-2302	3537-OPER-2303	3537-OPER-2305
3537-OPER-2306	3537-OPER-2308	ENGR-RECN-4003
MTCO-OPS-3002		

SUPPORT REQUIREMENTS:

SIMULATION EVALUATION:

SIMULATED	SUITABILITY	SIMULATOR	UNIT OF MEASURE	HOURS	PM
Yes	L/S	CCS	Crew Hours	40	Y

RANGE/TRAINING AREA:

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

EQUIPMENT: Motor transportation assets, communication equipment and electronic countermeasures

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Local Standard Operating Procedures apply based upon the area of operations.

SIMULATION: Simulation hours are recommendations based on input from SMEs during the Simulation Assessment Working Group (SAWG) in Sept 2015. Assigned hours are not intended to be prescriptive or restrictive. Units are encouraged to catalog actual simulation hours conducted during training in order to update the simulation appendix during the next T&R Manual review.

MTCO-OPS-4002: Conduct Motor Transport operations

SUPPORTED MET(S):

MCT 1.12.5.1.1	MCT 1.12.5.1.2	MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: The MWSS Motor Transport (MT) platoon provides light, medium, and heavy vehicles in support of ACE requirements.

CONDITION: Given a mission, vehicles, personnel, required tools and equipment.

STANDARD: To meet the operational and sustainment requirements of one FOB and two FARPs simultaneously.

EVENT COMPONENTS:
1. Review mission.
2. Provide organic transportation capabilities.
3. Utilize materials handling equipment operations support capabilities.
4. Utilize communications capabilities, as required.
5. Conduct intra-base support for the MAG/ACE and FOB tenant activities.
6. Complete transportation support requests.
7. Track transportation capability availability.
8. Execute convoy operations.
9. Report the status of current transportation operations.
10. Report transportation support asset availability.
11. Report transportation requirements status.
12. Report equipment readiness.
13. Conduct operator/crew level PMCS.

REFERENCES:
1. 49 CFR Part 177 49 CFR Part 177, Hazardous Materials Transportation, Hazardous Materials Regulations
2. DOD 4500.9-R Defense Transportation Regulation (DTR)
3. MCO 11240.118_ Licensing Program for Tactical Wheeled Motor Transport Equipment Operators
4. MCRP 3-40F.7 Multi-Service Tactics, Techniques, and Procedures for Tactical Convoy Operations (TCO)
5. MCRP 4-11.3F Convoy Operations Handbook
6. MCTP 3-20B Aviation Ground Support
7. MCTP 3-40E Maintenance Operations
8. MCTP 3-40F Transportation Operations
9. MCWP 5-10 Marine Corps Planning Process
10. NAVSEA SWO20-AF-HBK-010 Motor Vehicle Driver and Shipping Inspector's Manual for Ammunition, Explosives, and Related Hazardous Materials
11. TM 11240-15/B Principal Technical Characteristics of U.S. Marine Corps Motor Transportation Equipment

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

MTCO-OPS-5001	MTCO-OPS-5002

INTERNAL SUPPORTING EVENTS:

MTCO-OPS-3001	MTCO-OPS-3002	MTCO-OPS-4001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

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

EQUIPMENT: Motor transportation assets, communication equipment and electronic countermeasures

UNITS/PERSONNEL: Officer in Charge, Range Safety Officer, corpsman, motor transport operators and communicators

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Local Standard Operating Procedures apply based upon the area of operations.

MWSS-ASO-4001: Implement security measures

SUPPORTED MET(S): MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: The second fundamental of area security is unit responsibility. When executing area security or unit defense, unit commanders can take the active and passive measures to enhance rear area security.

CONDITION: Given an operations order, commander's intent, task organized personnel, equipment and references.

STANDARD: To establish flight line security within the designed criteria and the commander's intent.

EVENT COMPONENTS:
1. Organize units for defensive operations.
2. Equip support personnel with weapon/munitions.
3. Equip augment personnel with weapons/munitions.
4. Conduct security patrols.
5. Establish traffic control to vulnerable facilities and activities.
6. Establish access control to vulnerable facilities and activities.
7. Establish security for convoys.
8. Establish survivability positions.
9. Establish countermobility obstacles and barriers.
10. Conduct camouflaging for cover and concealment of resources.
11. Employ dispersion tactics.
12. Establish redundancy in critical facilities.
13. Harden installations.
14. Employ deception measures.

REFERENCES:
1. JP 3-10 Joint Security Operations in Theater
2. JP 3-10.1 Joint Tactics, Techniques, and Procedures (JTTP) for Base Defense
3. MCRP 3-40F.7 Multi-Service Tactics, Techniques, and Procedures for Tactical Convoy Operations (TCO)
4. MCRP 4-11.3F Convoy Operations Handbook
5. MCTP 3-20B Aviation Ground Support
6. MCTP 3-30C Rear Area Operations

7. MCTP 3-34B Combined Arms Countermobility Operations
8. MCTP 3-34C Survivability Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: MWSS-ASO-5001

INTERNAL SUPPORTING EVENTS:

ENGR-SURV-3001	ENGR-SURV-3002	ENGR-SURV-3003
ENGR-SURV-3004	ENGR-SURV-3005	ENGR-SURV-3006
MWSS-ASO-3001	MWSS-ASO-3002	

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17330 Covered Training Area
Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Equipment and weapons used by the MWSS security personnel, i.e. engineer, motor transportation, communication, Explosive Ordnance Disposal (EOD), and C4I Assets and equipment.

MWSS-ASO-4002: Employ Force Protection Conditions (FPCON)

SUPPORTED MET(S): MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: Force Protection conditions (FPCON) are designed to provide awareness to forces in all locations and situations; it is accomplished through planned and integrated application of combating terrorism, physical security, operations security, personal protective services, and supported by intelligence, counterintelligence, and other security programs.

CONDITION: Given an operations order, commander's intent, task organized personnel, equipment and references.

STANDARD: To establish rear area security within the designed criteria.

EVENT COMPONENTS:
1. Participate in FPCON planning.
2. Implement plan.
3. Identify FPCON conditions.
4. Post daily FPCON condition.
5. Identify threat levels.
6. Integrate security fundamentals.
7. Establish security posture for conditions.

REFERENCES:
1. JP 3-10 Joint Security Operations in Theater
2. MCTP 3-20B Aviation Ground Support

3. MCTP 3-30C Rear Area Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: MWSS-ASO-5001

INTERNAL SUPPORTING EVENTS:
MWSS-ASO-3001 MWSS-ASO-3002

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17330 Covered Training Area
Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Equipment and weapons used by MWSS security personnel, i.e. engineer, motor transportation, communication, Explosive Ordnance Disposal (EOD), and C4I Assets and equipment.

MWSS-ASO-4003: Employ security objectives

SUPPORTED MET(S): MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: These are goals used to enhance rear area security in all levels of Airfield Security Operations. They are used when planning, implementing, and executing.

CONDITION: Given an operations order, commander's intent, task organized personnel, equipment, and the references.

STANDARD: To establish rear area security within the designed criteria.

EVENT COMPONENTS:
1. Establish security for required areas (e.g. rear, local areas, and facilities).
2. Establish preventive measures for enemy interference with command, control, and communications operations.
3. Establish preventive measures for disruption of aviation operations.
4. Establish preventive measures for disruption of Aviation Ground Support.
5. Provide unimpeded movement of friendly units through the area.
6. Establish security for enemy incursion areas.
7. Establish quick and responsive area damage control.

REFERENCES:
1. JP 3-10 Joint Security Operations in Theater
2. MCTP 3-20B Aviation Ground Support
3. MCTP 3-30C Rear Area Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: MWSS-ASO-5001

INTERNAL SUPPORTING EVENTS:
MWSS-ASO-3001 MWSS-ASO-3002

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17330 Covered Training Area
Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Equipment and weapons used by the MWSS security personnel, i.e. engineer, motor transportation, communication, Explosive Ordnance Disposal (EOD), and C4I Assets and equipment.

MWSS-ASO-4004: Employ security principles

SUPPORTED MET(S): MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: They are used as a guide to accomplish ASO in the planning, implement and execution of security operations.

CONDITION: Given an operations order, commander's intent, task organized personnel, equipment, and the references.

STANDARD: To establish rear area security within the designed criteria.

EVENT COMPONENTS:
1. Task Organize.
2. Establish flight line security force.
3. Utilize augmented forces.
4. Employ augmented force, as required.
5. Employ engineers in ASO planning and operations.
6. Establish responsiveness criteria.

REFERENCES:
1. JP 3-10 Joint Security Operations in Theater
2. MCTP 3-20B Aviation Ground Support
3. MCTP 3-30C Rear Area Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: MWSS-ASO-5001

INTERNAL SUPPORTING EVENTS:
MWSS-ASO-3001 MWSS-ASO-3002

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17330 Covered Training Area
Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Equipment and weapons used by the MWSS security personnel, i.e. engineer, motor transportation, communication, Explosive Ordnance Disposal (EOD), and C4I Assets and equipment.

MWSS-ASO-4005: Employ security tasks

SUPPORTED MET(S): MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: They are used to accomplish ASO in the planning, implement and execution of security operations.

CONDITION: Given an operations order, commander's intent, task organized personnel, equipment, and references.

STANDARD: To establish rear area security within the designed criteria.

EVENT COMPONENTS:
1. Secure necessary augmentation to sustain AGS.
2. Establish active security measures i.e. (e.g. observation, patrols).
3. Establish delay tactics using (firing positions, sectors, obstacles, etc.).
4. Establish immediate actions for enemy incursions.

REFERENCES:
1. JP 3-10 Joint Security Operations in Theater
2. MCTP 3-20B Aviation Ground Support
3. MCTP 3-30C Rear Area Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: MWSS-ASO-5001

INTERNAL SUPPORTING EVENTS:
MWSS-ASO-3001 MWSS-ASO-3002

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17330 Covered Training Area
Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Equipment and weapons used by the MWSS security personnel, i.e. engineer, motor transportation, communication, Explosive Ordnance Disposal (EOD), and C4I Assets and equipment.

MWSS-ASO-4006: Employ security and control procedures

SUPPORTED MET(S): MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: Using the ASO plan, security and control procedures will be established to restrict personnel and vehicles access and movement to the flight line. They are implemented and executed for all levels of security in economy of the force.

CONDITION: Given an operations order, commander's intent, task organized personnel, equipment and references.

STANDARD: To establish flight line security within the designed criteria.

EVENT COMPONENTS:
1. Establish identification check procedures for individuals entering flight line.
2. Establish entry/exit points.
3. Position crew-serve weapons as reinforcement for high-speed avenues of approach.
4. Position crew-serve weapons as reinforcement for entry points.
5. Establish redundancy in communications (telephone and radio).
6. Establish rally points.
7. Establish staging areas.
8. Employ night vision devices and other security enhancing equipment (e.g., flood lights).
9. Develop range cards.
10. Develop a fire support plan.
11. Harden critical facilities.
12. Harden defensive/security positions.
13. Establish guard posts based on threat (locate enemy before he can disrupt ACE operations).
14. Establish reporting procedures.
15. Establish signal plan.
16. Establish vehicle search procedures.
17. Rehearse immediate actions and upgrade threat response posture.
18. Establish random patrols (unpredictable).

REFERENCES:
1. JP 3-10 Joint Security Operations in Theater
2. MCTP 3-20B Aviation Ground Support
3. MCTP 3-30C Rear Area Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: MWSS-ASO-5001

INTERNAL SUPPORTING EVENTS:

ENGR-SURV-4002	ENGR-SURV-4003	ENGR-SURV-4004
ENGR-SURV-4005	ENGR-SURV-4006	ENGR-UTIL-4001
MWSS-ASO-3001	MWSS-ASO-3002	

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17330 Covered Training Area
Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT: Equipment and weapons used by the MWSS security personnel, i.e. engineer, motor transportation, communication, Explosive Ordnance Disposal (EOD), and C4I Assets and equipment.

3007. 3000-LEVEL EVENTS

Event Code	E-Coded	Event	Page
3000 Level Events			
AOPS-FUEL-3001	NO	Maintain bulk fuel distribution site	3-2
AOPS-FUEL-3002	NO	Conduct aircraft fueling operations	3-3
AOPS-FUEL-3003	NO	Conduct mobile fueling operations	3-5
ENGR-CMOB-3001	NO	Employ explosive obstacles	3-6
ENGR-CMOB-3002	NO	Build non-explosive obstacles	3-7
ENGR-EQIP-3001	NO	Provide crane support	3-9
ENGR-EQIP-3002	NO	Provide Material Handling Equipment (MHE) support	3-10
ENGR-EQIP-3003	NO	Provide construction equipment support	3-11
ENGR-EQIP-3004	NO	Conduct Foreign Object Debris (FOD) Mitigation	3-13
ENGR-HORZ-3001	NO	Conduct dust abatement	3-14
ENGR-MANT-3001	NO	Maintain engineer equipment	3-15
ENGR-MANT-3002	NO	Employ maintenance team	3-17
ENGR-MANT-3003	NO	Maintain power distribution system(s)	3-18
ENGR-RECN-3001	NO	Assess damage to airfield surfaces	3-20
ENGR-RECN-3002	NO	Assess damage to airfield facilities and structures	3-21
ENGR-RECN-3003	NO	Survey site for construction	3-22
ENGR-RECN-3004	NO	Conduct obstacle reconnaissance (S/L)	3-23
ENGR-RECN-3005	NO	Conduct bridge reconnaissance	3-25
ENGR-RECN-3006	NO	Conduct road reconnaissance (S/L)	3-26
ENGR-SURV-3001	NO	Construct vehicle survivability position	3-28
ENGR-SURV-3002	NO	Construct fighting position	3-29
ENGR-SURV-3003	NO	Construct overhead cover	3-30
ENGR-SURV-3004	NO	Construct pre-detonation screen	3-31
ENGR-SURV-3005	NO	Construct shelters	3-33
ENGR-SURV-3006	NO	Construct vehicle fighting position	3-34
ENGR-VERT-3001	NO	Fell standing timber	3-35
HQCO-DATA-3001	NO	Provide data services	3-36
HQCO-FLDM-3001	NO	Provide Expeditionary Food Service Operations	3-37
HQCO-GCEM-3001	NO	Provide field level maintenance support for cables	3-38
HQCO-GCEM-3002	NO	Provide field level maintenance support for ground radio equipment	3-39
HQCO-GCEM-3003	NO	Provide field level maintenance support for telecommunications equipment	3-39
HQCO-GCEM-3004	NO	Provide field level maintenance support for IT equipment	3-40
HQCO-MED-3001	NO	Receive Casualties	3-41
HQCO-MED-3002	NO	Conduct temporary casualty holding	3-42
HQCO-MED-3003	NO	Perform medical care	3-43
HQCO-MED-3004	NO	Conduct casualty evacuation	3-43
HQCO-MED-3005	NO	Provide Immunizations	3-44
HQCO-NET-3001	NO	Provide network services	3-45
HQCO-NET-3002	NO	Provide long haul cabling transport	3-45
HQCO-OPS-3001	YES	Provide access to DISN services	3-46

HQCO-OPS-3002	YES	Establish a communications site	3-47
MTCO-MANT-3001	NO	Maintain motor transport equipment	3-48
MTCO-OPS-3001	NO	Conduct recovery operations	3-49
MTCO-OPS-3002	NO	Conduct ground fueling operations	3-51
MWSS-ASO-3001	NO	Employ a medium machinegun team (S/L)	3-52
MWSS-ASO-3002	NO	Employ a heavy machinegun (S/L)	3-53

AOPS-FUEL-3001: Maintain bulk fuel distribution site

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Employ bulk fuel systems, to include: SIXCON Modular System (5 Fuel Storage Tank Modules and 1 Fuel Pump Module), Tactical Airfield Fuel Dispensing Systems (TAFDS) and Helicopter Expedient Refueling System (HERS) 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 in order to meet mission requirements.

EVENT COMPONENTS:
1. Coordinate with supported unit.
2. Determine personnel, tools, and equipment requirement(s).
3. Survey proposed area and prepare the site.
4. Construct fuel storage site with required components (mission dependent).
5. Construct fuel dispensing assembly (mission dependent).
6. Construct fuel receiving assembly (mission dependent).
7. Ensure environmental control devices are properly placed.
8. Ensure repair devices are properly placed.
9. Ensure interface devices are properly placed.
10. Ensure firefighting equipment is properly placed.
11. Ensure quality control measures are in compliance.
12. Ensure grounding rods/cables are properly installed.
13. Set-up inventory control procedures.
14. Dispense fuel as required.
15. Receive fuel resupply as required.
16. Produce reports as required.
17. Recover system as required.

REFERENCES:
1. FM 10-69 Petroleum Supply Point Equipment and Operations
2. MCRP 3-40B.5 Petroleum and Water Logistics Operations
3. MIL-STD-3004D w/CH 1 Department of Defense Standard Practice Quality Assurance/Surveillance for Fuels, Lubricants and Related Products
4. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
5. TM 3835-OI/1A Marine Corps Tactical Fuel Systems

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

AOPS-FUEL-4001	ENGR-EQIP-3002	ENGR-EQIP-3003
ENGR-EQIP-4001	ENGR-HORZ-4001	ENGR-MOBL-4001
ENGR-RECN-3002	ENGR-RECN-4001	ENGR-UTIL-3001
ENGR-UTIL-3002	ENGR-UTIL-3003	ENGR-UTIL-4001
MTCO-OPS-3002		

INTERNAL SUPPORTING EVENTS:

1391-BFOP-1008	1391-BFOP-1009	1391-BFOP-2001
1391-BFOP-2003	1391-BFOP-2007	1391-BFOP-2008
3531-ADMN-2101	3531-ADMN-2102	3531-OPER-1001
3531-OPER-1002	3531-OPER-2201	3531-OPER-2202
3531-OPER-2203	3531-OPER-2204	3531-OPER-2206
3531-OPER-2207	3531-OPER-2208	3531-OPER-2210
3531-OPER-2211	3531-OPER-2215	3534-OPER-2001
3537-ADMN-2101	3537-ADMN-2102	3537-ADMN-2103
3537-ADMN-2104	3537-ADMN-2105	3537-ADMN-2106
3537-MAIN-2101	3537-MAIN-2102	

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17933 POL Training Area

EQUIPMENT: Bulk fuel equipment, PPE, Construction Equipment (CE), Material Handling Equipment(MHE), and survey set (as required)

UNITS/PERSONNEL: This task may require the support of MOS 1361/1371 for site survey; and potentially MOS 1345 if berming is necessary.

AOPS-FUEL-3002: Conduct aircraft fueling operations

SUPPORTED MET(S): MCT 1.12.5.1.1

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

READINESS-CODED: NO

DESCRIPTION: The Bulk fuel section uses the Tactical Airfield Fuel Dispensing Systems (TAFDS) which is an aviation-specific system exclusively designed for aircraft. It consists of six 20,000-gallon collapsible tanks and four 50,000 gallon tanks which can store up to 320,000 gallons of fuel. The MWSS possesses three TAFDS and can store the equivalent of 960,000 gallons of fuel at a time, which allows simultaneous refueling of 12 aircraft from 12 refueling points. The Helicopter Expedient Refueling System (HERS) is designed for refueling rotary aircraft in support of operations in remote locations. Because of its flexibility and mobility, it is ideally suited to support FARP operations. Versatility, ease of transportability, and rapid deployment are key features of the HERS. The HERS employs 500-gallon collapsible fuel drums, 3,000-gallon tanks, skid mounted 150 GPM pumps and filter-separators. The HERS can be rapidly installed and configured to meet the specific tactical situation and requirement. Experienced personnel can establish a HERS site within 2 hours.

CONDITION: Provided with the requirement, equipment and personnel.

STANDARD: To dispense fuel in order to meet mission requirements.

EVENT COMPONENTS:
1. Review requirement.
2. Deploy the TAFDS, as required.
3. Deploy HERS, as required.
4. Deploy MK970, as required.
5. Produce reports, as required.
6. Recover system, as required.

REFERENCES:
1. MCRP 3-40B.5 Petroleum and Water Logistics Operations
2. MCTP 3-40F Transportation Operations
3. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
4. NAVAIR 06-5-502 Aircraft Refueling For Shore Activities
5. NAVMC DIR 5100.8_ Marine Corps Occupational Safety and Health (OSH) Program Manual
6. NAVSEA OP 5 Vol 1 Ammunition and Explosives/Ashore Safety Regulations of Handling, Storage, Production, Renovation and Shipping
7. NAVSEA OP 5 Vol 2 Ammunition & Explosives Ashore Safety Regulation
8. TB 10-5430-253-13 Technical Bulletin for Collapsible Fabric Fuel Tanks
9. TC 21-305-20 Manual for the Wheeled Vehicle Operator
10. TM 08089B-OI/1A Operators Manual for Semitrailer, Tank: 5,000 Gallon Fuel Dispensing, Under/Overwing Aircraft (MK970)
11. TM 11165A-OR System Operational Manual for Truck, Tractor, 7-Ton, W/O Winch, MK31
12. TM 3835-OI/1B Marine Corps Tactical Fuel Systems
13. TM 5-2330-356-14&P Semi-Trailer Tank, 5000

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: AOPS-FUEL-5001

INTERNAL SUPPORTING EVENTS:

3531-ADMN-2101	3531-ADMN-2102	3531-OPER-1001
3531-OPER-1002	3531-OPER-2201	3531-OPER-2202
3531-OPER-2203	3531-OPER-2204	3531-OPER-2206
3531-OPER-2207	3531-OPER-2208	3531-OPER-2210
3531-OPER-2211	3531-OPER-2215	3534-OPER-2001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17933 POL Training Area

EQUIPMENT: Material Handling Equipment, Bulk fuel equipment, Utilities equipment, Motor Transport equipment, Tactical communications equipment, PPE.

AOPS-FUEL-3003: Conduct mobile fueling operations

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: The MK970 can be used to either fuel or defuel aircraft. The MK970 is ideally suited to support FOB or FARP operations over smooth terrain. Semitrailer refueler operators operate and maintain the MK31 tactical tractors and the MK970 Semi-trailer refuelers. Marines with NMOS 3534 are trained to conduct fueling and defueling operations for all aviation and ground assets.

CONDITION: Provided with the requirement, equipment and personnel.

STANDARD: To meet operational requirements without mishaps.

EVENT COMPONENTS:
1. Operate semi-trailer refueler on road.
2. Transport hazardous cargo.
3. Operate semi-trailer refueler off road.
4. Re-circulate semi-trailer refueler.
5. Obtain fuel sample for testing.
6. Refuel ground equipment, as required.
7. Troubleshoot semi-trailer refueler.
8. Perform emergency shutdown procedures.
9. Refuel aircraft.
10. Account for receipt, storage, and distribution of fuel in fuel logbook.
11. Operate semi-trailer refueler under unusual conditions.
12. Operate semi-trailer refueler in administrative conditions.
13. Operate semi-trailer refueler under limited vision conditions.
14. Conduct de-fueling operations.
15. Perform semi-trailer coupling procedures.
16. Submit reports, as required.

REFERENCES:
1. CFR 49 Code of Federal Regulations - Hazardous Materials
2. MCTP 3-40F Transportation Operations
3. NAVAIR 00-80T-109 Aircraft Refueling NATOPS Manual
4. NAVAIR 06-5-502 Aircraft Refueling For Shore Activities

5. NAVMC DIR 5100.8_ Marine Corps Occupational Safety and Health (OSH) Program Manual
6. NAVSEA OP 5 Vol 1 Ammunition and Explosives/Ashore Safety Regulations of Handling, Storage, Production, Renovation and Shipping
7. NAVSEA OP 5 Vol 2 Ammunition & Explosives Ashore Safety Regulation
8. TC 21-305-20 Manual for the Wheeled Vehicle Operator
9. TM 11165A-OR System Operational Manual for Truck, Tractor, 7-Ton, W/O Winch, MK31
10. TM 5-2330-356-14&P Semi-Trailer Tank, 5000

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: AOPS-OPS-6001

INTERNAL SUPPORTING EVENTS:

3531-ADMN-2101	3531-ADMN-2102	3531-OPER-1001
3531-OPER-1002	3531-OPER-2201	3531-OPER-2202
3531-OPER-2203	3531-OPER-2204	3531-OPER-2206
3531-OPER-2207	3531-OPER-2208	3531-OPER-2210
3531-OPER-2211	3531-OPER-2215	3534-OPER-2001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

ENGR-CMOB-3001: Employ explosive obstacles

SUPPORTED MET(S):

MCT 1.12.5.1.1	MCT 1.12.5.1.2	MCT 1.4.1.5
MCT 6.1.1.3.4.1		

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

READINESS-CODED: NO

DESCRIPTION: Create explosive obstacles to turn, block, fix, or disrupt enemy movement or maneuver of personnel or equipment in support of Airfield Security Operations within the ACE.

CONDITION: Given a mission, personnel, demolitions material, engineer equipment, and personal protective equipment.

STANDARD: To turn, block, fix, or disrupt the enemy in accordance with the obstacle plan.

EVENT COMPONENTS:

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

7. Submit required reports.

REFERENCES:
1. MCRP 3-34.2 Explosives and Demolitions
2. MCRP 3-34.3 Engineer Reconnaissance
3. MCTP 3-34B Combined Arms Countermobility Operations
4. MCWP 3-31.2 Mine Warfare
5. MCWP 3-34 Engineering Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-CMOB-4001

INTERNAL SUPPORTING EVENTS:

1371-CMOB-1003	1371-CMOB-2001	1371-CMOB-2002
1371-CMOB-2003	1371-CMOB-2501	1371-DEMO-1001
1371-DEMO-1002	1371-DEMO-2001	

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17730 Fire And Movement Range
Facility Code 17830 Light Demolition Range

EQUIPMENT:
- Combat engineer chests, sets and kits
- Material Handling Equipment (MHE)
- Construction equipment
- Communications equipment
- Motor transport assets

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman
- Engineer equipment operators
- Motor transport operators

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: The recommended types and quantities of ammunition, explosive, pyrotechnics and munitions can be found on ENGR-CMOB-5001.

ENGR-CMOB-3002: Build non-explosive obstacles

SUPPORTED MET(S):

MCT 1.12.5.1.1	MCT 1.12.5.1.2	MCT 1.4.1.5
MCT 6.1.1.3.4.1		

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

READINESS-CODED: NO

DESCRIPTION: Build non-explosive obstacles to turn, block, fix, or disrupt the enemy. Typical examples are: wire, tank ditches, log cribs, steel beam post obstacles, falling or tumble blocks, dragon's teeth, hedgehogs, tetrahedrons and non-explosive abatis in support of Airfield Security Operations within the ACE.

CONDITION: Given a mission, location to emplace the obstacle, personnel, equipment, and resources (Class IV, V, natural terrain, battlefield materials, etc.).

STANDARD: To turn, block, fix, or disrupt the enemy in accordance with the obstacle plan.

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

REFERENCES:
1. MCRP 3-34.1 Engineer Field Data
2. MCRP 3-34.4 Engineer Forms and Reports
3. MCTP 3-34A Combined Arms Mobility
4. MCTP 3-34B Combined Arms Countermobility Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-CMOB-4002

INTERNAL SUPPORTING EVENTS:

1100-ADMN-1003	1316-XENG-1001	1316-XENG-1002
1316-XENG-1006	1316-XENG-1007	1345-HEOP-1001
1345-HEOP-1002	1345-HEOP-2001	1345-HEOP-2002
1371-CMOB-1001	1371-CMOB-1002	1371-CMOB-2001
1371-CMOB-2002	1371-CMOB-2501	1371-EOPS-1003
1371-EOPS-1004	1371-EOPS-1006	1371-EOPS-2002
1371-RECN-1001	1371-RECN-2001	1371-VERT-1004

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17730 Fire And Movement Range

Facility Code 17830 Light Demolition Range

EQUIPMENT:
- Combat engineer chests, sets and kits
- Material Handling Equipment (MHE)
- Construction equipment
- Communications equipment
- Motor transport assets

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman
- Engineer equipment operators
- Motor transport operators

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: The recommended types and quantities of ammunition, explosive, pyrotechnics and munitions can be found on ENGR-CMOB-5001.

ENGR-EQIP-3001: Provide crane support

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Employ organic crane assets in support of ACE operations.

CONDITION: Given a requirement, personnel, engineer equipment, and references.

STANDARD: To support mission requirements without mishap.

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. Plan the lift.
7. Verify weight of lifted material.
8. Perform during checks and services.
9. Setup crane for lifting operations.
10. Conduct lift of material.
11. Displace equipment, as required.
12. Submit required reports.

REFERENCES:
1. Local Standard Operating Procedures (SOP)

2. FM 21-60 Visual Signs
3. MCO 11262.2_ Standard Policy for Inspection, Testing, and Certification of Tactical Ground Load Lifting Equipment
4. MCRP 3-34.4 Engineer Forms and Reports
5. TM 4700-15/1_ Ground Equipment Record Procedures

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-EQIP-4001

INTERNAL SUPPORTING EVENTS:

1345-ADMN-1001	1345-ADMN-2001	1345-ADMN-2002
1345-ADMN-2003	1345-HEOP-1001	1345-HEOP-2001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

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

UNITS/PERSONNEL:
- Officer in Charge (OIC)
- Range Safety Officer (RSO)
- Corpsman
- Licensed crane operator
- Communicator
- Rigger

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Personnel operating cranes are required to be licensed on the equipment operating.

ENGR-EQIP-3002: Provide Material Handling Equipment (MHE) support

SUPPORTED MET(S):
MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Material Handling Equipment (MHE) capability is lifting, moving, loading and unloading supplies, equipment, vehicles, containers, and palletized cargo in support of ACE operations.

CONDITION: Given a mission, personnel, equipment, and references.

STANDARD: To support mission requirements without mishap.

EVENT COMPONENTS:
1. Coordinate with supported unit (location, requirements, security, ground guides, etc.).

2. Prepare equipment for operation.
3. Move to site.
4. Establish safety zone.
5. Deploy safety measures for equipment.
6. Verify weight of lift requirement, as required.
7. Conduct lift of material.
8. Verify job task completed with supported unit.
9. Conduct equipment recovery operations, as required.
10. Perform after operations checks and services.
11. Complete required administrative actions.

REFERENCES:
1. AETM Applicable Equipment Technical Manuals
2. FM 21-60 Visual Signs
3. MCRP 3-34.4 Engineer Forms and Reports
4. TM 4700-15/1_ Ground Equipment Record Procedures

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-EQIP-4001

INTERNAL SUPPORTING EVENTS:

1345-ADMN-1001	1345-ADMN-2001	1345-ADMN-2002
1345-ADMN-2003	1345-HEOP-1001	1345-HEOP-2001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17918 Road/Airfield Construction Training Site
Facility Code 17931 Medium/Heavy Equipment Training Area

EQUIPMENT:
- Material Handling Equipment
- Engineer Equipment Trailer (EET)
- Motor transport assets
- Communication equipment

UNITS/PERSONNEL:
- Officer in Charge
- Range Safety Officer
- Corpsman
- Engineer equipment operators
- Motor transport operators
- Communicator

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Prior to conducting lift requirement ensure ground guides demonstrate proper use of standard hand and arm signals to operator. Local Standard Operating Procedures will further dictate requirements.

ENGR-EQIP-3003: Provide construction equipment support

SUPPORTED MET(S):
MCT 1.12.5.1.2 MCT 1.4.1.5 MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: Provide earth moving support to the ACE including; mobility, survivability, countermobility and horizontal construction support.

CONDITION: Given a requirement, personnel, engineer equipment and references.

STANDARD: To support mission requirements without mishap.

EVENT COMPONENTS:
1. Coordinate with supported unit (location, requirements, security, and ground guides, etc.).
2. Prepare equipment for operation.
3. Move to site.
4. Establish safety zone.
5. Deploy safety measures for equipment.
6. Support mobility operations (Landing Zones (LZ), combat roads and fell standing timber), as required.
7. Support survivability operations (fighting positions, protective positions, hardening, camouflage and concealment), as required.
8. Support countermobility operations (obstacle groups, non-explosive obstacle/barriers and field expedient obstacles), as required.
9. Support horizontal construction projects, as required.
10. Verify job task completed with supported unit.
11. Conduct equipment recovery operations, as required.
12. Perform after operations checks and services.
13. Complete required administrative actions.

REFERENCES:
1. FM 21-60 Visual Signs
2. MCO 11262.2_ Standard Policy for Inspection, Testing, and Certification of Tactical Ground Load Lifting Equipment
3. MCRP 3-34.4 Engineer Forms and Reports
4. MCRP 3-40D.1 Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Road Design
5. MCRP 3-40D.9 Earthmoving Operations
6. MCTP 3-34A Combined Arms Mobility
7. MCTP 3-34B Combined Arms Countermobility Operations
8. MCTP 3-34C Survivability Operations
9. TM 4700-15/1_ Ground Equipment Record Procedures

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
ENGR-EQIP-5001 ENGR-HORZ-4001

INTERNAL SUPPORTING EVENTS:

1345-ADMN-1001	1345-ADMN-2001	1345-ADMN-2002
1345-ADMN-2003	1345-HEOP-1002	1345-HEOP-2002

1345-HEOP-2003 1345-HEOP-2004 1345-HEOP-2005
1345-HEOP-2006

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17420 Maneuver/Training Area, Heavy Forces

EQUIPMENT:
- Construction Equipment (CE)
- Motor transport assets
- Communication equipment

UNITS/PERSONNEL:
- Officer in Charge
- Range Safety Officer
- Corpsman
- Engineer equipment operators
- Motor transport operators
- Communicator

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Local Standard Operating Procedures will further dictate requirements.

ENGR-EQIP-3004: Conduct Foreign Object Debris (FOD) Mitigation

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Runway sweeping services consist of cleaning runways, taxiways, expeditionary airfields, and other stabilized areas of debris that can cause damage to aircraft.

CONDITION: While in support of aircraft operations, provided with a runway sweeper and runway areas with debris.

STANDARD: To safely meet operational requirements without mishap.

EVENT COMPONENTS:
1. Perform pre-operational checks and services.
2. Establish communications with ground control.
3. Sweep areas as directed.
4. Report completion to ground control.
5. Perform post operational checks and services.
6. Submit required reports.

REFERENCES:

1. FM 21-60 Visual Signs
2. MCTP 3-20B Aviation Ground Support
3. TM 09199B-OR Sweeper, Rotary, Vehicle Mounting
4. TM 11275-15/4 Tactical Engineer Equipment Licensing Manual
5. TM 4700-15/1_ Ground Equipment Record Procedures

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: AOPS-EAF-5001

SUPPORT REQUIREMENTS:

EQUIPMENT: Runway sweeper, Multi-terrain Loader (MTL) with sweeper attachment

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ENGR-HORZ-3001: Conduct dust abatement

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Employ a dust palliative with the assistance of organic engineer assets in support of ACE operations.

CONDITION: Given a requirement, personnel, engineer equipment, materials, and references.

STANDARD: To mitigate the effects of wind-blown dust on personnel, equipment, and airfield surfaces.

EVENT COMPONENTS:
1. Coordinate with supported unit, as required.
2. Identify environmental restrictions.
3. Determine soil composition.
4. Determine dust palliative product requirements.
5. Determine dust palliative product application equipment requirements.
6. Determine dust palliative application guidance (helipads/roads/base camps).
7. Prepare equipment for operation.
8. Move to site.
9. Don Personal Protective Equipment (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.

REFERENCES:
1. Dust Abatement Handbook
2. MCRP 3-40D.1 Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Road Design
3. MCRP 3-40D.2 Planning and Design of Roads, Airfields, and Heliports in the

Theater of Operations - Airfield and Heliport Design
4. MCRP 3-40D.9 Earthmoving Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
ENGR-EQIP-4001 ENGR-MOBL-5002

INTERNAL SUPPORTING EVENTS: 1371-HORZ-2001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

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

EQUIPMENT:
- Construction Equipment
- Material Handling Equipment
- Hydroseeder
- Motor transport assets
- Communication equipment

UNITS/PERSONNEL:
- Officer in Charge
- Range Safety Officer
- Corpsman
- Engineer equipment operators
- Motor transport operators
- Communicator

ENGR-MANT-3001: Maintain engineer equipment

SUPPORTED MET(S): MCT 1.12.5.1.2

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

READINESS-CODED: NO

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

CONDITION: Given equipment, tools, repair parts, supplies, Automated Information Systems (AIS), personnel, and references.

STANDARD: To sustain Mission Essential Equipment (MEE) in an operational status at or above 80%.

EVENT COMPONENTS:
1. Review service request.
2. Employ maintenance team, as required.
3. Monitor equipment readiness.
4. Conduct reconciliation.

5. Assign tasks.
6. Maintain organic tactical engineer equipment.
7. Manage maintenance programs.
8. Complete required administrative actions.

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 Readiness Reportable Ground Equipment
4. MCO 4733.1B Marine Corps Test, Measurement, and Diagnostic 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

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-MANT-4001

INTERNAL SUPPORTING EVENTS:

1100-ADMN-1001	1100-ADMN-1003	1100-ADMN-1004
1100-ADMN-2001	1100-ADMN-2003	1100-ADMN-2004
1100-MANT-1001	1100-MANT-2001	1100-MANT-2002
1100-SUPP-2001	1100-SUPP-2002	1100-SUPP-2003
1120-UTOP-2003	1141-MANT-1001	1141-MANT-1002
1141-MANT-1003	1142-MANT-1001	1142-MANT-1002
1142-MANT-1008	1142-MANT-1009	1142-MANT-2002
1142-MANT-2003	1161-MANT-1001	1161-MANT-1002
1161-MANT-1003	1161-MANT-1004	1161-MANT-1005
1161-MANT-1006	1161-MANT-1007	1161-MANT-1008
1169-MANT-2001	1169-MANT-2002	1171-MANT-1001
1171-MANT-1002	1171-MANT-1003	1171-MANT-1004
1171-MANT-1005	1171-MANT-1006	1171-MANT-1007
1171-MANT-2001	1171-MANT-2002	1316-MANT-1001
1316-MANT-1002	1316-MANT-2001	1316-MANT-2002
1316-XENG-1001	1316-XENG-1002	1316-XENG-1003
1316-XENG-1004	1316-XENG-1005	1316-XENG-1006
1316-XENG-1007	1341-ADMN-1001	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-2001
1341-MANT-2002	1341-MANT-2003	1341-MANT-2004
1341-MANT-2005	1341-MANT-2006	1341-MANT-2007
1341-MANT-2008	1341-MANT-2009	1341-MANT-2010
1342-MANT-1001	1342-MANT-1002	1342-MANT-1003
1342-MANT-1004	1342-MANT-1005	1342-MANT-1006
1342-MANT-1007	1342-MANT-1008	1342-MANT-1009
1342-MANT-1010	1345-ADMN-2002	1371-MANT-1001
1371-MANT-2001	1371-MANT-2501	1391-ADMN-1001
1391-ADMN-2003	1391-MANT-1001	1391-MANT-1002
1391-MANT-1003	1391-MANT-2001	

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17420 Maneuver/Training Area, Heavy Forces

EQUIPMENT:
- Engineer tools, sets, kits
- Maintenance contact vehicle

UNITS/PERSONNEL:
- Engineer equipment maintainers
- Utilities equipment maintainers
- Metal Worker
- Communicator

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Unit and local SOPs may provide further guidance on event requirements.

ENGR-MANT-3002: Employ maintenance team

SUPPORTED MET(S): MCT 1.12.5.1.2

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

READINESS-CODED: NO

CONDITION: Given equipment, tools, repair parts, supplies, personnel, automated information systems, and references.

STANDARD: To ensure equipment is in operational condition.

EVENT COMPONENTS:
1. Review service request.
2. Coordinate with supported unit.
3. Determine personnel, tool, and equipment requirement(s).
4. Determine maintenance support requirement.
5. Conduct Limited Technical Inspection (LTI).
6. Repair equipment, as required.
7. Perform quality control, as required.
8. Recover and evacuate, as required.
9. Complete required administrative actions.

REFERENCES:
1. 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 Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
5. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
6. SOPS, LOCAL UNIT Local Unit Standard Operational Procedures (SOPs)
7. TM 4700-15/1_ Ground Equipment Record Procedures
8. UM 4000-125 Retail Supply and Maintenance Execution Procedures

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-MANT-4001

INTERNAL SUPPORTING EVENTS:

1100-ADMN-1001	1100-ADMN-1003	1100-ADMN-2001
1100-MANT-1001	1100-MANT-2002	1141-MANT-1001
1141-MANT-1003	1142-MANT-1002	1142-MANT-1003
1142-MANT-1004	1142-MANT-1005	1142-MANT-1006
1142-MANT-1007	1142-MANT-1009	1142-MANT-2002
1142-MANT-2003	1161-MANT-1001	1161-MANT-1002
1161-MANT-1003	1161-MANT-1004	1161-MANT-1007
1161-MANT-1008	1171-MANT-1004	1171-MANT-1005
1171-MANT-1006	1171-MANT-1007	1171-MANT-2001
1171-MANT-2002	1316-ADMN-2001	1316-MANT-1001
1316-XENG-1001	1316-XENG-1002	1316-XENG-1003
1316-XENG-1004	1316-XENG-1005	1316-XENG-1006
1316-XENG-1007	1341-ADMN-1001	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-2001
1341-MANT-2002	1341-MANT-2004	1341-MANT-2005
1341-MANT-2006	1341-MANT-2007	1341-MANT-2008
1341-MANT-2009	1342-MANT-1001	1342-MANT-1002
1342-MANT-1003	1342-MANT-1004	1342-MANT-1005
1342-MANT-1006	1342-MANT-1007	1342-MANT-1008
1342-MANT-1009	1342-MANT-1010	1391-MANT-1002
1391-MANT-1003		

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17420 Maneuver/Training Area, Heavy Forces

EQUIPMENT:
- Maintenance contact vehicle
- Maintenance tools and equipment
- Proper Protective Equipment (PPE)
- Communication equipment

UNITS/PERSONNEL:
- Engineer equipment maintainers
- Utilities equipment maintainers
- Metal worker
- Communicator

ENGR-MANT-3003: Maintain power distribution system(s)

SUPPORTED MET(S): MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: Maintain equipment to ensure distribution of electrical power in support of ACE operations.

CONDITION: Given equipment, tools, Automated Information Systems (AIS), personnel, and references.

STANDARD: In an operational status.

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.

REFERENCES:
1. MCRP 3-40D.11 Theater of Operations Electrical Systems
2. TM 12359A-OD Principal Technical Characteristics of Marine Corps Utility, Advanced Power, Fuel and Water Equipment
3. TM 4700-15/1_ Ground Equipment Record Procedures
4. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety
5. UM 4000-125 Retail Supply and Maintenance Execution Procedures

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-MANT-4001

INTERNAL SUPPORTING EVENTS:

1100-ADMN-1001	1100-ADMN-1003	1100-ADMN-2001
1100-MANT-1001	1100-MANT-2001	1100-MANT-2002
1100-SAFE-1002	1100-SUPP-2001	1142-MANT-1002
1142-MANT-1003		

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT:
- Multi-meter
- Tools
- Power generation equipment
- Proper Protective Equipment (PPE)

UNITS/PERSONNEL:
- Utilities equipment maintainers
- Communicator

MISCELLANEOUS:

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

ENGR-RECN-3001: Assess damage to airfield surfaces

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.4.1.5

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

READINESS-CODED: NO

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. The MWSS in support of the ACE conducts surface inspections that 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 an airfield, an operations order, commander's intent, personnel, equipment, and references.

STANDARD: To ensure all pavement damage and unexploded ordnance (UXO) locations are identified and cataloged utilizing the NATO pavement reference marking system.

EVENT COMPONENTS:
1. Coordinate with supported unit.
2. Coordinate with supporting unit Explosive Ordnance Disposal (EOD), as required.
3. Determine personnel, tool, and equipment requirement(s).
4. Proceed to assigned objective.
5. Reconnoiter damaged airfield surface, as required.
6. Submit appropriate engineer reports.

REFERENCES:
1. MCRP 3-34.4 Engineer Forms and Reports
2. MCRP 3-40D.2 Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Airfield and Heliport Design
3. MCTP 3-20B Aviation Ground Support
4. MCWP 3-34 Engineering Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
ENGR-MOBL-4002 ENGR-MOBL-4003

INTERNAL SUPPORTING EVENTS:

1371-EOPS-2001	1371-HORZ-1001	1371-HORZ-1002
1371-HORZ-1003	1371-HORZ-2001	1371-HORZ-2004

1371-HORZ-2501

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17918 Road/Airfield Construction Training Site

EQUIPMENT:
- Combat engineer tools and equipment
- Motor transport assets
- Communication equipment

UNITS/PERSONNEL:
- Officer in Charge
- Combat engineer personnel
- Corpsman
- Motor transport operators
- Communicator
- Explosive Ordnance Disposal (EOD) personnel

ENGR-RECN-3002: Assess damage to airfield facilities and structures

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Airfield facilities and structures 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 airfield facility or structure to be repaired, task organized equipment and personnel, resources, and references.

STANDARD: To determine suitability of facility or structure to meet minimum structural and construction standards per UFC 1-201-02.

EVENT COMPONENTS:
1. Review the mission.
2. Coordinate with supported unit.
3. Determine personnel, tool, and equipment requirement(s).
4. Proceed to assigned objective.
5. Determine material required to complete the repair.
6. Submit appropriate engineer reports.

REFERENCES:
1. MCRP 3-34.4 Engineer Forms and Reports
2. MCRP 3-40D.2 Planning and Design of Roads, Airfields, and Heliports in the Theater of Operations - Airfield and Heliport Design
3. MCTP 3-20B Aviation Ground Support

4. MCTP 3-40D General Engineering
5. MCWP 3-34 Engineering Operations
6. UFC 1-201-02 DoD Unified Facilities Criteria - Assessment of Existing Facilities for use in Military Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

ENGR-RECN-4001	ENGR-VERT-4005

INTERNAL SUPPORTING EVENTS:

1371-EOPS-1004	1371-EOPS-1006	1371-EOPS-2510
1371-VERT-1001	1371-VERT-1002	1371-VERT-1004

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17918 Road/Airfield Construction Training Site

EQUIPMENT:
- Combat engineer tools and equipment
- Motor transport assets
- Communication equipment

UNITS/PERSONNEL:
- Officer in Charge
- Combat engineer personnel
- Corpsman
- Motor transport operators
- Communicator
- Explosive Ordnance Disposal (EOD) personnel

ENGR-RECN-3003: Survey site for construction

SUPPORTED MET(S):

MCT 1.12.5.1.1	MCT 1.12.5.1.2	MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Survey site for construction to allow planning for construction and or operations in support of the ACE.

CONDITION: Provided a construction mission, a map, a calculator, task organized personnel, equipment, and references.

STANDARD: To support mission requirements.

EVENT COMPONENTS:
1. Coordinate with supported unit.
2. Move to survey site.
3. Reconnoiter project site, as required.

4. Submit required reports.

REFERENCES:
1. MCRP 3-40D.15 Construction Drafting
2. MCRP 3-40D.3 Carpentry
3. MCRP 3-40D.4 Concrete and Masonry
4. TM 5-704 Construction Print Reading in the Field

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
ENGR-HORZ-4001 ENGR-RECN-4001

INTERNAL SUPPORTING EVENTS:
1371-RECN-1001 1371-RECN-2001 1371-RECN-2002

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT:
- Combat engineer tools and kits
- Motor transport assets
- Communication equipment

UNITS/PERSONNEL:
- Officer in Charge
- Combat engineer personnel
- Motor transport operators
- Communicator

ENGR-RECN-3004: Conduct obstacle reconnaissance (S/L)

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Conduct obstacle reconnaissance to focus on answering obstacle intelligence i.e. 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 in support of ACE operations.

CONDITION: Provided a mission, blank engineer reconnaissance forms (DD Form 3015), personnel, equipment, and references.

STANDARD: To identify obstacles; identify suitable bypasses; and record any other relevant engineer information on the appropriate reconnaissance forms.

EVENT COMPONENTS:

1. Review the mission.
2. Coordinate with supported unit.
3. Review the map of the route to be taken.
4. Proceed to assigned objective.
5. Determine obstacle type and location.
6. Reconnoiter obstacle, as required.
7. Locate and mark the object, as required.
8. Identify the object.
9. Identify suitable bypasses, as required.
10. Transfer information to a map overlay using correct engineer/tactical symbols.
11. Submit required reports.

REFERENCES:

1. GTA 5-2-5 Engineer Reconnaissance
2. MCRP 3-34.1 Engineer Field Data
3. MCRP 3-34.3 Engineer Reconnaissance
4. MCRP 3-34.4 Engineer Forms and Reports
5. MCTP 3-34A Combined Arms Mobility
6. MCWP 3-34 Engineering Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

ENGR-RECN-4002	ENGR-RECN-4003	ENGR-RECN-4004

INTERNAL SUPPORTING EVENTS:

1371-RECN-1001	1371-RECN-2001	1371-RECN-2002

SUPPORT REQUIREMENTS:

SIMULATION EVALUATION:

SIMULATED	SUITABILITY	SIMULATOR	UNIT OF MEASURE	HOURS	PM
Yes	S/L	DVTE	Marine Hours	24	Y

NOTES: Simulation hours are recommendations based on input from engineer SMEs during the Simulation Assessment Working Group (SAWG) in Sept 2015. Assigned hours are not intended to be prescriptive or restrictive. Units are encouraged to catalog actual simulation hours conducted during training in order to update the simulation appendix during the next T&R Manual review.

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces
Facility Code 17920 Panel Bridge Area

EQUIPMENT:

- Range finder
- Tape measure
- Compass
- Protractor
- Camera
- Maps
- Motor transport equipment

- Communication equipment

UNITS/PERSONNEL:
- Officer in Charge
- Combat engineer personnel
- Motor transport operator
- Communicator

ENGR-RECN-3005: Conduct bridge reconnaissance

SUPPORTED MET(S):
MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: 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 in support of ACE operations.

CONDITION: Provided a requirement, blank engineer reconnaissance forms (DD Form 3011), 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.

EVENT COMPONENTS:
1. Review the mission.
2. Coordinate with supported unit.
3. Review route reconnaissance.
4. Proceed to assigned objective.
5. Reconnoiter bridge.
6. Classify bridge(s), as required.
7. Identify suitable bypasses, as required.
8. Submit required reports.
9. Transfer information to a map overlay using correct engineer/tactical symbols.

REFERENCES:
1. GTA 5-7-13 Bridge Classification Booklet
2. MCRP 3-34.1 Engineer Field Data
3. MCRP 3-34.3 Engineer Reconnaissance
4. MCRP 3-34.4 Engineer Forms and Reports
5. MCRP 3-34A.2 Military Non-Standard Fixed Bridging
6. MCWP 3-34 Engineering Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-RECN-4003

INTERNAL SUPPORTING EVENTS:

1371-RECN-1001 1371-RECN-2001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces
Facility Code 17920 Panel Bridge Area

EQUIPMENT:
- Range finder
- Tape measure
- Compass
- Protractor
- Camera
- Maps
- Motor transport equipment
- Communication equipment

UNITS/PERSONNEL:
- Officer in Charge
- Combat engineer personnel
- Motor transport operator
- Communicator

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS:

ENGR-RECN-3006: Conduct road reconnaissance (S/L)

SUPPORTED MET(S):
MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Conduct road reconnaissance to collect detailed technical information on the engineering characteristics and trafficability of a road section within a route in support of ACE operations.

CONDITION: Given a requirement, blank engineer reconnaissance forms (DD Form 3010), 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.

EVENT COMPONENTS:
1. Review the mission.
2. Coordinate with supported unit.
3. Review route reconnaissance.
4. Proceed to assigned objective.
5. Reconnoiter road(s) or route(s), as required.

6. Classify road(s), as required.
7. Classify route(s), as required.
8. Identify suitable bypasses, as required.
9. Submit required reports.
10. Transfer information to a map overlay using correct engineer/tactical symbols.

REFERENCES:
1. GTA 5-2-5 Engineer Reconnaissance
2. MCRP 3-34.1 Engineer Field Data
3. MCRP 3-34.3 Engineer Reconnaissance
4. MCRP 3-34.4 Engineer Forms and Reports
5. MCTP 3-34A Combined Arms Mobility

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-RECN-4003

INTERNAL SUPPORTING EVENTS:
1371-RECN-1001 1371-RECN-2001

SUPPORT REQUIREMENTS:

SIMULATION EVALUATION:

SIMULATED	SUITABILITY	SIMULATOR	UNIT OF MEASURE	HOURS	PM
Yes	S/L	DVTE	Marine Hours	24	Y

NOTES: Simulation hours are recommendations based on input from engineer SMEs during the Simulation Assessment Working Group (SAWG) in Sept 2015. Assigned hours are not intended to be prescriptive or restrictive. Units are encouraged to catalog actual simulation hours conducted during training in order to update the simulation appendix during the next T&R Manual review.

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT:
- Range finder
- Tape measure
- Compass
- Protractor
- Camera
- Maps
- Motor transport equipment
- Communication equipment

UNITS/PERSONNEL:
- Officer in Charge
- Combat engineer personnel
- Motor transport operator
- Communicator

ENGR-SURV-3001: Construct vehicle survivability position

SUPPORTED MET(S):
MCT 1.12.5.1.2 MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: In support of the ACE and Airfield Security Operations positions must be tailored to the operating characteristics and requirements of the vehicle and weapon system that occupy the position. Crews should understand the principles and procedures for constructing the positions, camouflaging and concealment of the positions.

CONDITION: Given a requirement, personnel, engineer equipment, design specifications, and materials.

STANDARD: That meets mission requirement and mitigate the threat of enemy weapon systems.

EVENT COMPONENTS:
1. Review design specifications.
2. Prioritize vehicle positions.
3. Construct position.
4. Displace equipment, as required.
5. Submit required reports.

REFERENCES:
1. MCRP 12-10B.1 Military Operations on Urbanized Terrain
2. MCRP 3-34.1 Engineer Field Data
3. MCRP 3-40D.3 Carpentry
4. MCTP 3-30C Rear Area Operations
5. MCTP 3-34C Survivability Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

ENGR-SURV-4003	ENGR-SURV-4004	ENGR-SURV-4005
ENGR-SURV-4007		

INTERNAL SUPPORTING EVENTS:

1345-HEOP-1002	1345-HEOP-2002	1371-EOPS-1002
1371-EOPS-1003	1371-EOPS-1004	1371-EOPS-1006
1371-EOPS-2002	1371-SURV-1001	1371-SURV-2001
1371-SURV-2501	1371-VERT-1001	1371-VERT-1002
1371-VERT-1004		

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT:

- Combat engineer chests, sets and kits
- Construction Equipment (CE)
- Motor transport assets
- Communications equipment

MATERIAL:
- Officer in Charge
- Engineer equipment operators
- Motor transport operators
- Communicators

ENGR-SURV-3002: Construct fighting position

SUPPORTED MET(S):
MCT 1.4.1.5 MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: Purpose of the individual or crew-served fighting position is to allow Marines and their weapons systems to engage and destroy the enemy's forces while avoiding or withstanding hostile actions in support of Airfield Security Operations (ASO).

CONDITION: Given personnel, design specification, materials, and engineer equipment.

STANDARD: That 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. Review design specifications.
2. Clear fields of fire.
3. Dig position for specific weapon system.
4. Emplace revetment material, as required.
5. Form parapet around position.
6. Dig grenade sump.
7. Dig storage area, as required.
8. Construct overhead cover, as required.
9. Camouflage, as required.
10. Inspect and maintain position, as required.

REFERENCES:
1. MCRP 3-34.1 Engineer Field Data
2. MCTP 3-34C Survivability Operations
3. MCWP 3-34 Engineering Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
ENGR-SURV-4003 ENGR-SURV-4004

INTERNAL SUPPORTING EVENTS:

1345-HEOP-1001	1345-HEOP-1002	1345-HEOP-2001
1345-HEOP-2002	1371-EOPS-1004	1371-EOPS-1006
1371-SURV-2001	1371-SURV-2501	1371-VERT-1001
1371-VERT-1002	1371-VERT-1004	

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT:
- Combat engineer chests, sets and kits
- Construction Equipment (CE)
- Motor transport assets
- Communications equipment

UNITS/PERSONNEL:
- Officer in Charge
- Engineer equipment operators
- Motor transport operators
- Communicators

ENGR-SURV-3003: Construct overhead cover

SUPPORTED MET(S):
MCT 1.12.5.1.2 MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: Construct overhead cover that meets or exceeds the maximum threat capability of enemy weapons systems in support of Airfield Security Operations (ASO).

CONDITION: Given a requirement, personnel, design specifications, and engineer equipment.

STANDARD: To design specifications that meets maximum threat capability of enemy weapons systems.

EVENT COMPONENTS:
1. Review design specifications..
2. Determine single/double laminated sheathing.
3. Place stringers.
4. Emplace dust proof layer.
5. Emplace lower cushion layer.
6. Emplace distribution layer.
7. Emplace top cushion layer.
8. Emplace waterproof layer.
9. Emplace burst layer.
10. Emplace camouflage layer.

REFERENCES:
1. MCRP 3-34.1 Engineer Field Data
2. MCTP 3-34B Combined Arms Countermobility Operations
3. MCTP 3-34C Survivability Operations
4. MCWP 3-34 Engineering Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

ENGR-RECN-4002	ENGR-RECN-4003	ENGR-RECN-4004
ENGR-SURV-4002	ENGR-SURV-4003	ENGR-SURV-4004
ENGR-SURV-4005	ENGR-SURV-4006	

INTERNAL SUPPORTING EVENTS:

1345-HEOP-1002	1345-HEOP-2002	1371-EOPS-1002
1371-EOPS-1003	1371-EOPS-1004	1371-EOPS-1006
1371-EOPS-2002	1371-SURV-1001	1371-SURV-2001
1371-SURV-2501	1371-VERT-1001	1371-VERT-1002
1371-VERT-1004	1371-VERT-2001	1371-VERT-2501

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT:
- Material Handling Equipment
- Combat engineer chests, sets and kits
- Construction Equipment
- Motor transport assets
- Communications equipment

UNITS/PERSONNEL:
- Officer in Charge
- Engineer equipment operators
- Motor transport operators
- Communicators

ENGR-SURV-3004: Construct pre-detonation screen

SUPPORTED MET(S):
MCT 1.12.5.1.2 MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: Pre-detonation screens are built separately or added on to existing structures and used to activate the fuse of an incoming shell or projectile at a designated standoff distance from the structure in support of Airfield Security Operations (ASO).

CONDITION: Given a requirement, personnel, design specifications, materials and engineer equipment.

STANDARD: To mitigate the effects of enemy weapons systems in accordance with design specifications.

EVENT COMPONENTS:
1. Review design specifications.
2. Coordinate with supported unit.
3. Prepare equipment for operation.
4. Move to site.
5. Establish safety zone.
6. Construct pre-detonation screen.
7. Displace equipment as required.
8. Submit required reports.

REFERENCES:
1. MCRP 3-34.1 Engineer Field Data
2. MCTP 3-34B Combined Arms Countermobility Operations
3. MCTP 3-34C Survivability Operations
4. MCWP 3-34 Engineering Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

ENGR-SURV-4001	ENGR-SURV-4002	ENGR-SURV-4003
ENGR-SURV-4004		

INTERNAL SUPPORTING EVENTS:

1371-EOPS-1006	1371-SURV-1001	1371-SURV-2001
1371-SURV-2501	1371-VERT-1001	1371-VERT-1002
1371-VERT-1004		

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT:
- Material Handling Equipment
- Combat engineer chests, sets and kits
- Construction Equipment
- Motor transport assets
- Communications equipment

UNITS/PERSONNEL:
- Officer in Charge
- Engineer equipment operators
- Motor transport operators
- Communicators

ENGR-SURV-3005: Construct shelters

SUPPORTED MET(S):
MCT 1.12.5.1.2 MCT 1.4.1.5 MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: Construct shelters to provide personnel and/or equipment cover from the elements, indirect/direct fire weapons in support of Airfield Security Operations (ASO).

CONDITION: Given a mission, personnel, design specifications, materials and engineer equipment.

STANDARD: That provides personnel and/or equipment cover from the elements, indirect/direct fire weapons, and meets mission requirement.

EVENT COMPONENTS:
1. Review design specifications.
2. Prepare equipment for operation.
3. Move to site.
4. Establish safety zone.
5. Construct shelter, as required.
6. Displace equipment, as required.
7. Submit required reports.

REFERENCES:
1. MCRP 3-34.1 Engineer Field Data
2. MCTP 3-34B Combined Arms Countermobility Operations
3. MCTP 3-34C Survivability Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: ENGR-SURV-4002

INTERNAL SUPPORTING EVENTS:

1371-EOPS-1003	1371-EOPS-1004	1371-EOPS-1006
1371-EOPS-2002	1371-SURV-1001	1371-SURV-2001
1371-SURV-2501	1371-VERT-1001	1371-VERT-1002
1371-VERT-1004	1371-VERT-2001	1371-VERT-2501

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT:
- Material Handling Equipment
- Combat engineer chests, sets and kits
- Construction Equipment
- Motor transport assets
- Communications equipment

MATERIAL: Class IV materials, as required

UNITS/PERSONNEL:

- Officer in Charge
- Engineer equipment operators
- Motor transport operators
- Communicators

ENGR-SURV-3006: Construct vehicle fighting position

SUPPORTED MET(S):
MCT 1.4.1.5 MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

DESCRIPTION: Vehicle fighting positions include fighting and protective positions for major weapons systems vehicles and their support equipment. Initially, vehicles use natural cover and concealment in hide positions to increase survivability. As time, assets, and situation permit, positions are prepared using engineer support. Priority is given to those vehicles containing essential critical equipment or supplies.

CONDITION: Given a mission, personnel, design specifications, engineer equipment and materials.

STANDARD: To mitigate the effects of enemy weapons systems in accordance with design specifications.

EVENT COMPONENTS:
1. Review design specifications.
2. Prepare equipment for operation.
3. Dig hull defilade, as required.
4. Dig turret defilade, as required.
5. Dig concealed access or ramp, as required.
6. Dig hide position, as required.
7. Mark position.
8. Inspect and repair, as required.

REFERENCES:
1. MCRP 3-34.1 Engineer Field Data
2. MCTP 3-30C Rear Area Operations
3. MCTP 3-34C Survivability Operations
4. MCWP 3-34 Engineering Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:

ENGR-SURV-4001	ENGR-SURV-4002	ENGR-SURV-4005
ENGR-SURV-4007		

INTERNAL SUPPORTING EVENTS:

1345-HEOP-1001	1345-HEOP-1002	1345-HEOP-2001
1345-HEOP-2002	1371-EOPS-1002	1371-EOPS-1003
1371-EOPS-1004	1371-EOPS-1006	1371-SURV-1001
1371-SURV-2001	1371-SURV-2501	1371-VERT-1001

1371-VERT-1002 1371-VERT-1004

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17410 Maneuver/Training Area, Light Forces

EQUIPMENT:
- Material Handling Equipment
- Combat engineer chests, sets and kits
- Construction Equipment
- Motor transport assets
- Communications equipment

MATERIAL: Class IV materials, as required

UNITS/PERSONNEL:
- Officer in Charge
- Engineer equipment operators
- Motor transport operators
- Communicators

ENGR-VERT-3001: Fell standing timber

SUPPORTED MET(S):
MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: Fell standing timber to clear a forested area in support of ACE operations.

CONDITION: Given standing timber, appropriate tools, equipment, personnel, and Class V.

STANDARD: To clear a forested area in support of operations.

EVENT COMPONENTS:
1. Coordinate with supported unit.
2. Determine employment method (mechanical, explosive, manual).
3. Calculate estimations.
4. Prepare equipment for operation.
5. Move to site.
6. Establish safety zone.
7. Cut timber.
8. Submit required reports.

REFERENCES:
1. Appropriate TM/Manufacture's Manual for Chainsaw
2. MCRP 3-34.1 Engineer Field Data
3. MCRP 3-34.2 Explosives and Demolitions

4. MCRP 3-34.4 Engineer Forms and Reports

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS:
ENGR-DEMO-5001 ENGR-MOBL-4005

INTERNAL SUPPORTING EVENTS:
1371-DEMO-1001 1371-EOPS-2002 1371-SURV-2001
1371-SURV-2501 1371-VERT-1004

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

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

EQUIPMENT:
- Motor transport assets
- Construction equipment
- Combat engineer tools and kits
- Chainsaw
- Personal Protective Equipment (PPE) - Communication assets

UNITS/PERSONNEL:
- Officer in Charge
- Range Safety Officer
- Corpsman
- Engineer equipment operators
- Motor transport operators
- Communicator

HQCO-DATA-3001: Provide data services

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

EVALUATION-CODED: NO **SUSTAINMENT INTERVAL:** 3 months

READINESS-CODED: NO

DESCRIPTION: The team/crew will IOM all data systems IAW the data services plan utilizing all necessary support assets.

CONDITION: Provided a command's mission, operational tasking and associated planning documentation, a data services plan, an approved certification and accreditation package, documentation, references, an existing digital backbone, and equipment and personnel.

STANDARD: In accordance with applicable technical references, and satisfying the commander's data services requirements.

EVENT COMPONENTS:

1. Plan data services.
2. Validate site plan.
3. Validate HVAC requirements.
4. Validate disaster recovery plan.
5. Establish data services architecture.
6. Establish data services.
7. Conduct DODIN operations.
8. Support help desk.

REFERENCES:
1. CJCSM 6231 SERIES Manual for Employing Joint Tactical Communication
2. JP 6-0 Joint Communications System
3. MCTP 3-20B Aviation Ground Support
4. MCTP 3-30B.2 MAGTF Communications System

CHAINED EVENTS:

EXTERNAL SUPPORTING EVENTS:

0630-ENGR-2001	0630-ENGR-2002	0631-INST-1001
0631-MNGT-2001	0631-OPER-1001	0633-INST-2001
0633-INST-2002	0633-INST-2003	0633-INST-2004
0633-MANT-2001	0633-MNGT-2001	

HQCO-FLDM-3001: Provide Expeditionary Food Service Operations

SUPPORTED MET(S): MCT 1.12.5.1.2

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

READINESS-CODED: NO

CONDITION: Given a mission, food service equipment, unit roster, administrative supplies, and references.

STANDARD: To meet established criteria in accordance with references and ACE mission requirements.

EVENT COMPONENTS:
1. Evaluate mission to determine requirements.
2. Complete field deployment/planning checklist.
3. Submit requirements to appropriate agency(ies).
4. Coordinate embarkation requirements.
5. Coordinate Class I storage site.
6. Provide subsistence according to mission requirements.
7. Conduct retrograde operations.
8. Coordinate maintenance requirements.
9. Submit required reports.

REFERENCES:
1. MCO 10110.14_ Marine Corps Food Service and Subsistence Program
2. MCRP 3-40G.1 Marine Corps Field Feeding Program
3. MCTP 13-10C Unit Embarkation Handbook
4. NAVMED P-5010-1 Manual of Naval Preventive Medicine Food Safety
5. NAVMED P-5010-9 Manual of Naval Preventive Medicine, Chapter 9, Preventive

Medicine for Ground Forces
6. UM 4000-125 Retail Supply and Maintenance Execution Procedures

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Event component two will be completed in accordance with MCRP 3-40G.1 Appendix B.

HQCO-GCEM-3001: Provide field level maintenance support for cables

SUPPORTED MET(S): MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: This event is for a maintenance section whose primary focus or additional support requirement is to provide field level maintenance support for cables.

CONDITION: Given a mission, personnel, and equipment.

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

EVENT COMPONENTS:
1. Perform inspection and classification on cables.
2. Perform servicing, adjustment, and tuning on cables.
3. Perform repair on cables.
4. Perform modification on cables.
5. Perform recovery and evacuation on cables.
6. Provide assistance in complex maintenance tasks.
7. Administer quality control program.
8. Supervise maintenance actions.
9. Manage ground electronics maintenance production.
10. Train ground electronics maintainers in ground electronics maintenance.

REFERENCES:
1. Applicable technical references
2. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
3. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
4. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
5. SL 1-2/3 Index of Authorized Publications in Stock
6. UM 4000-125 Retail Supply and Maintenance Execution Procedures

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HQCO-GCEM-3002: Provide field level maintenance support for ground radio equipment

SUPPORTED MET(S): MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: This event is for a maintenance section whose primary focus or additional support requirement is to provide field level maintenance support for ground radio equipment.

CONDITION: Given a mission, personnel, and equipment.

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

EVENT COMPONENTS:
1. Perform inspection and classification on ground radio equipment.
2. Perform servicing, adjustment, and tuning on ground radio equipment.
3. Perform repair on ground radio equipment.
4. Perform modification on ground radio equipment.
5. Perform recovery and evacuation on ground radio equipment.
6. Provide technical assistance during the installation, operation, and maintenance of ground radio equipment.
7. Provide assistance in complex maintenance tasks.
8. Administer quality control program.
9. Supervise maintenance actions.
10. Manage ground electronics maintenance production.
11. Train ground electronics maintainers in ground electronics maintenance.
12. Manage training for ground electronics maintenance personnel.

REFERENCES:
1. Applicable technical references
2. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
3. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
4. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
5. SL 1-2/3 Index of Authorized Publications in Stock
6. SL-4 Repair, Maintenance, and Management Lists
7. UM 4000-125 Retail Supply and Maintenance Execution Procedures

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Unit and local SOPs may provide further guidance on event requirements.

HQCO-GCEM-3003: Provide field level maintenance support for telecommunications equipment

SUPPORTED MET(S): MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: This event is for a maintenance section whose primary focus or additional support requirement is to provide field level maintenance support for telecommunications equipment.

CONDITION: Given a mission, personnel, and equipment.

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

EVENT COMPONENTS:
1. Perform inspection and classification on telecommunication equipment.
2. Perform servicing, adjustment, and tuning on telecommunication equipment.
3. Perform repair on telecommunication equipment.
4. Perform modification on telecommunication equipment.
5. Perform recovery and evacuation on telecommunication equipment.
6. Provide technical assistance during the installation, operation, and maintenance of telecommunication equipment.
7. Provide assistance in complex maintenance tasks.
8. Administer quality control program.
9. Supervise maintenance actions.
10. Manage ground electronics maintenance production.
11. Train ground electronics maintainers in ground electronics maintenance.
12. Manage training for ground electronics maintenance personnel.

REFERENCES:
1. Applicable technical references
2. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
3. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
4. SL 1-2/3 Index of Authorized Publications in Stock
5. SL-4 Repair, Maintenance, and Management Lists
6. UM 4000-125 Retail Supply and Maintenance Execution Procedures
7. USSID CR1500

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Unit and local SOPs may provide further guidance on event requirements.

HQCO-GCEM-3004: Provide field level maintenance support for IT equipment

SUPPORTED MET(S): MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: This event is for a maintenance section whose primary focus or additional support requirement is to provide field level maintenance support for IT equipment.

CONDITION: Given a mission, personnel, and equipment.

STANDARD: To maintain equipment in an operational status at or above 80% readiness.

EVENT COMPONENTS:
1. Perform inspection and classification on IT equipment.
2. Perform servicing, adjustment, and tuning on IT equipment.
3. Perform repair on IT equipment.
4. Perform modification on IT equipment.
5. Perform recovery and evacuation on IT equipment.
6. Provide technical assistance during the installation, operation, and maintenance of IT equipment.
7. Provide assistance in complex maintenance tasks.
8. Administer quality control program.
9. Supervise maintenance actions.
10. Manage ground electronics maintenance production.
11. Train ground electronics maintainers in ground electronics maintenance.
12. Manage training for ground electronics maintenance personnel.

REFERENCES:
1. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
2. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
3. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
4. SL 1-2/3 Index of Authorized Publications in Stock
5. SL-4 Repair, Maintenance, and Management Lists
6. UM 4000-125 Retail Supply and Maintenance Execution Procedures

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HQCO-MED-3001: Receive Casualties

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: MWSS Medical personnel are trained and equipped to receive casualties, triage, and provide up to Level II care in order to evacuate to higher echelons of care or return casualties to duty status.

CONDITION: Given a location, facility, personnel, and equipment.

STANDARD: To correctly identify triage categories of casualties for treatment upon arrival.

EVENT COMPONENTS:
1. Conduct triage.
2. Treat casualties.
3. Maintain disposition of casualties.
4. Coordinate for evacuation as needed.
5. Prepare casualty for evacuation.
6. Submit reports if applicable.

REFERENCES: MCTP 3-40A Health Service Support Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: HQCO-OPS-4001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17413 Field Training Area

HQCO-MED-3002: Conduct temporary casualty holding

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: MWSS Medical personnel are trained and equipped to provide temporary casualty holding, triage, and provide up to Level II care pending evacuation to higher echelons of care or return to duty.

CONDITION: Given a location, personnel, and equipment.

STANDARD: To maintain disposition of casualty and prepare for evacuation.

EVENT COMPONENTS:
1. Assess casualty.
2. Provide holding capability/facilities until evacuation or discharge.
3. Maintain accountability of casualty and their gear.
4. Reassess casualty as needed.
5. Document treatment as necessary.
6. Prepare casualty for evacuation.

REFERENCES: MCTP 3-40A Health Service Support Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: HQCO-OPS-4001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17413 Field Training Area

HQCO-MED-3003: Perform medical care

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: MWSS Medical personnel are trained and equipped to receive casualties, triage, and provide up to Level II care in order to evacuate to higher echelons of care or return casualties to duty status.

CONDITION: Given a patient, personnel and equipment.

STANDARD: Ensuring injuries/illnesses are assessed and identified; patient care is performed, decreasing the risk of further injury or death..

EVENT COMPONENTS:
1. Conduct triage.
2. Perform history/physical examination.
3. Identify injury/illness.
4. Render appropriate treatment per standard of care.
5. Utilize ancillary services as indicated.
6. Document treatment.
7. Disposition patient.

REFERENCES:
1. FM 8-10-1 Tactics, Techniques, and Procedures for the Medical Company
2. MCTP 3-40A Health Service Support Operations
3. TM 10-8340-211-13 Operator, Unit and Direct Support Maintenance Manual for the Tent, General Purpose

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: HQCO-OPS-4001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17413 Field Training Area

HQCO-MED-3004: Conduct casualty evacuation

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: Casualty evacuation can be performed from anywhere to include the point of injury (POI) or a HSS facility. It may be a crew of personnel up to the size of a squad depending on the mission, situation and transport platform.

CONDITION: Given a casualty, personnel, equipment and a mode of transport.

STANDARD: To evacuate to a higher level of care.

EVENT COMPONENTS:
1. Submit casualty evacuation request.
2. Receive guidance from HHQ.
3. Prepare the casualty.
4. Prepare documentation.
5. Conduct casualty turnover.
6. Evacuate casualty.

REFERENCES:
1. MCO P3040.4 Marine Corps Casualty Procedures Manual
2. MCRP 3-40A.7 Patient Movement
3. MCTP 3-40A Health Service Support Operations
4. MCTP 3-40G Services in an Expeditionary Environment

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: HQCO-OPS-4001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17413 Field Training Area

HQCO-MED-3005: Provide Immunizations

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: Perform required immunizations.

CONDITION: Given a mission and supplies.

STANDARD: To maintain medical readiness as dictated by higher guidance.

EVENT COMPONENTS:
1. Gather immunization information on personnel.
2. Identify vaccines to be administered.
3. Administer vaccination.
4. Document as needed.

REFERENCES:
1. BUMEDINST 6230.15 Immunizations and Chemoprophylaxis
2. MCDP 5 Planning
3. MCTP 3-40A Health Service Support Operations

HQCO-NET-3001: Provide network services

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: The section will employ resources IAW the network plan utilizing all necessary support assets. Network services are also referred to as Department of Defense information network (DODIN) operations.

CONDITION: Provided a command's mission, operational tasking and associated planning documentation, a network plan, an approved certification and accreditation package, documentation, references, an existing digital backbone, and equipment and personnel.

STANDARD: Within 72 hours, and satisfying the commander's network services requirements.

EVENT COMPONENTS:
1. 1. Plan network services.
2. Validate the site plan.
3. Validate power stability/reliability.
4. Validate disaster recovery plan.
5. Establish network architecture.
6. Establish network services.
7. Extend network services.
8. Verify and maintain link quality.
9. Conduct DODIN operations.
10. Support help desk.

REFERENCES:
1. CJCSM 6231 (SERIES) Joint Tactical Communication Systems Manuals
2. DODI 8570.01-M Information Assurance Workforce Improvement Program
3. JP 3-12 Cyberspace Operations
4. JP 6-0 Joint Communications System
5. MCTP 3-20B Aviation Ground Support
6. MCTP 3-30B.2 MAGTF Communications System
7. Unit SOP Unit's Standing Operating Procedures

HQCO-NET-3002: Provide long haul cabling transport

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: The section will provide long haul cable transport to interconnect communications devices to support the communications plan.

CONDITION: Provided tools, ditching equipment, materials, and reference.

STANDARD: Establishing connectivity between end points and to a depth required by the cabling plan.

EVENT COMPONENTS:
1. Install aerial cabling.
2. Install direct buried cabling.
3. Conduct cable management.
4. Install commercial cabling.
5. Establish outside plant services.
6. Install fiber-optic cabling.

REFERENCES:
1. FM 11-372-2 Outside Plant Cable Placement
2. MCO 3500.27C Risk Management
3. MCTP 3-20B Aviation Ground Support

CHAINED EVENTS:

EXTERNAL SUPPORTING EVENTS: 0633-INST-2002

SUPPORT REQUIREMENTS:

EQUIPMENT:
1. Trenching equipment
2. Cable for burying
3. Labeling equipment
4. PPE
5. Equipment lifting capability

HQCO-OPS-3001: Provide access to DISN services

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: The section will provide DISN STEP access and IOM all required communication and support assets IOT provide certified and accredited classified/unclassified transmission, network, data, cybersecurity services in support of end user communications, enabling command and control.

CONDITION: Given a command's mission, operational tasking and associated planning documentation, a communications plan, required equipment staged and ready, an approved certification and accreditation package, references, and personnel.

STANDARD: Within 36 hours, and satisfying the commander's communication requirements.

EVENT COMPONENTS:
1. Embark unit.
2. Establish field power, as required.
3. Establish technical control.
4. Establish transmission services as required.
5. Establish network services, as required.
6. Establish data services, as required.
7. Establish cybersecurity services, as required.
8. Develop information security services.

REFERENCES:
1. CJCSM 6231 (SERIES) Joint Tactical Communication Systems Manuals
2. JP 6-0 Joint Communications System
3. MCTP 3-20B Aviation Ground Support
4. MCTP 3-30B.2 MAGTF Communications System

CHAINED EVENTS:

INTERNAL SUPPORTING EVENTS:
HQCO-DATA-3001 HQCO-NET-3001 HQCO-NET-3002

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Field power is provided by the 1100 occupational field, Utilities. Refer to NAVMC 3500.12_ Engineers & Utilities T&R Manual for T&R events relating to field power, including 0600 occupational field Marines performing incidental operation of utilities equipment.

HQCO-OPS-3002: Establish a communications site

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: The team/crew will establish a communication site that is scalable IAW operational requirements.

CONDITION: Provided a command's mission, a communications site plan, documents, and required equipment and personnel.

STANDARD: Supporting operational requirements and in accordance with the communications plan.

EVENT COMPONENTS:
1. Conduct site survey.
2. Embark unit.
3. Conduct movement to site.

4. Implement force protection measures.
5. Establish field power.
6. Execute communications site plan.

REFERENCES:
1. CJCSM 6231 (Series) Manual for Employing Joint Tactical Communications
2. JP 6-0 Joint Communications System
3. MCTP 3-20B Aviation Ground Support
4. MCTP 3-30B.2 MAGTF Communications System

CHAINED EVENTS:

INTERNAL SUPPORTING EVENTS: HQCO-DATA-3001

MTCO-MANT-3001: Maintain motor transport equipment

SUPPORTED MET(S): MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: The MWSS Motor Transport Company, Maintenance Platoon possesses an organic capability to conduct organizational maintenance and limited intermediate maintenance of assigned motor transport equipment and organizational maintenance of motor transport equipment support for supported unit(s), except for the elements of the MACG.

CONDITION: Provided with motor transport equipment, Automated Information Systems (AIS), and resources.

STANDARD: To achieve an operational readiness status.

EVENT COMPONENTS:
1. Conduct field level maintenance.
2. Provide maintenance support teams.
3. Provide maintenance contact teams.
4. Establish external maintenance related programs.
5. Complete required reports.

REFERENCES:
1. AETM Applicable Equipment Technical Manuals
2. AIETM Applicable Interactive Electronic Technical Manual
3. ALO/I Applicable Lubrication Order/Instruction
4. ASL-3 Applicable Stock Listing
5. MCO 11262.2_ Standard Policy for Inspection, Testing, and Certification of Tactical Ground Load Lifting Equipment
6. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
7. MCO 5311.1_ Total Force Structure Process (TFSP)
8. MCTP 3-20B Aviation Ground Support
9. TM 11240-15/B Principal Technical Characteristics of U.S. Marine Corps Motor Transportation Equipment
10. UM 4000-125 Retail Supply and Maintenance Execution Procedures

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: MTCO-MANT-5001

INTERNAL SUPPORTING EVENTS:

3521-ADVM-2001	3521-ADVM-2002	3521-ADVM-2003
3521-ADVM-2004	3521-ADVM-2005	3521-ADVM-2006
3521-ADVM-2007	3521-ADVM-2008	3521-ADVM-2009
3521-ADVM-2010	3521-ADVM-2011	3521-ADVM-2012
3521-ADVM-2013	3521-ADVM-2014	3521-ADVM-2015
3521-ADVM-2016	3521-ADVM-2017	3521-ADVM-2018
3521-ADVM-2019	3521-MAIN-1001	3521-MAIN-1002
3521-MAIN-1003	3521-MAIN-1004	3521-MAIN-1005
3521-MAIN-1006	3521-MAIN-1007	3521-MAIN-1008
3521-MAIN-1009	3521-MAIN-1010	3521-MAIN-1011
3521-MAIN-1012	3521-MAIN-1013	3521-MAIN-1014
3521-MAIN-1015	3521-MAIN-1016	3521-MAIN-1017
3521-MAIN-1018	3524-MAIN-2001	3524-MAIN-2002
3524-MAIN-2003	3524-MAIN-2004	3524-MAIN-2005
3524-MAIN-2006	3524-MAIN-2008	3524-MAIN-2009
3524-MAIN-2010	3524-MAIN-2011	3526-MAIN-2001
3526-MAIN-2002	3526-MAIN-2003	3526-MAIN-2004
3526-MAIN-2005	3526-MAIN-2006	3526-MAIN-2007
3526-MAIN-2008	3526-MAIN-2009	3526-MAIN-2010
3526-MAIN-2011	3526-MAIN-2012	3526-MAIN-2013
3526-MAIN-2014	3526-MAIN-2015	3526-MAIN-2016
3526-MAIN-2017	3526-MAIN-2018	3526-MAIN-2019
3526-MAIN-2020	3526-MAIN-2021	3526-MAIN-2022
3526-MAIN-2023	3526-MAIN-2024	3526-MAIN-2025
3526-MAIN-2026	3526-MAIN-2027	

SUPPORT REQUIREMENTS:

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS:
The related 2000 level Core Plus Skills events for MOS 3526 are to maintain the Expeditionary Firefighting and Rescue vehicle. The MOS 3521 1000 level and 2000 level events support this collective event.
Coordinate contract Logistics Support.

MTCO-OPS-3001: Conduct recovery operations

SUPPORTED MET(S): MCT 1.12.5.1.2

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

READINESS-CODED: NO

DESCRIPTION: Recovery is retrieving/freeing immobile, inoperative, or abandoned equipment from its current position and returning it to operation or to a maintenance site for repair. These actions typically involve towing, lifting, or winching. The MWSS MT Company has a vehicle recovery capability. Wreckers are used for recovering disabled, damaged, mired, or abandoned vehicles within the MWSS area of responsibility.

CONDITION: Given appropriate personnel, equipment, and resources.

STANDARD: By moving the disabled vehicle to a designated location without mishap.

EVENT COMPONENTS:
1. Complete crane inspection checklist.
2. Operate tactical wrecker in unusual conditions.
3. Operate tactical wrecker on road.
4. Operate tactical wrecker off road.
5. Recover vehicle by lift tow.
6. Recover vehicle by flat tow.
7. Recover vehicle with winches.
8. Recover vehicle by using block and tackle.
9. Operate auxiliary tools on tactical wrecker.
10. Perform coupling procedures.
11. Inventory/PMCS basic issue items.
12. Complete required reporting.

REFERENCES:
1. AETM Applicable Equipment Technical Manuals
2. AIETM Applicable Interactive Electronic Technical Manual
3. MCRP 3-40E.1 Recovery and Battle Damage Assessment and Repair (BDAR)
4. TM 10629-CD Interactive Electronic Technical Manual (IETM) for Re-Supply Vehicle

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: MTCO-OPS-4001

INTERNAL SUPPORTING EVENTS:
3531-OPER-2212 3536-OPER-2001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17420 Maneuver/Training Area, Heavy Forces

EQUIPMENT:
- Motor transport equipment and operators
- Personal protective equipment (PPE)

MTCO-OPS-3002: Conduct ground fueling operations

SUPPORTED MET(S):
MCT 1.12.5.1.1 MCT 1.12.5.1.2 MCT 1.4.1.5

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

READINESS-CODED: NO

DESCRIPTION: The MWSS has the capability to provide ground fueling to ACE assets (i.e., mobile electric generators, tactical motor transport, field messing facilities, and AGS equipment). SIXCON modules are the principal assets used by the MWSS to meet the ACE's ground refueling requirements. The SIXCON consists of five 900-gallon containers and one pump module per system. Each MWSS rates four SIXCONs to support the ACE ground refueling operations for a total storage capacity of 18,000 gallons. Because SIXCONs can be loaded on either medium tactical vehicle replacements (MTVRs) or Logistics Vehicle Systems Replacement (LVSRs), it is well suited for FARP operations over rough terrain. Additionally, each MWSS rates four 2500-gallon and 250-gallon per minute pump Flatrack Refueling Capability (FRC) to further transport, filter, and distribute fuel.

CONDITION: With a refueling plan, bulk fuel, distribution system, safety equipment, and personnel.

STANDARD: To dispense fuel in order to meet mission requirements.

EVENT COMPONENTS:
1. Coordinate with supported unit.
2. Determine personnel, tools, and equipment requirement(s).
3. Ensure quality control measures are in compliance to transport.
4. Transport hazardous cargo.
5. Place environmental control devices.
6. Place firefighting equipment.
7. Ensure quality control measures are in compliance to dispense fuel.
8. Dispense fuel.
9. Implement inventory control procedures.
10. Provide reports as required.

REFERENCES:
1. FM 10-69 Petroleum Supply Point Equipment and Operations
2. MCRP 3-40B.5 Petroleum and Water Logistics Operations
3. MCTP 3-20B Aviation Ground Support
4. MCTP 3-40B Tactical-Level Logistics
5. MIL HDBK 200 Quality Surveillance Handbook for Fuels, Lubricants, and Related Products
6. TM 3835-OI/1A Marine Corps Tactical Fuel Systems

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: MTCO-OPS-6001

INTERNAL SUPPORTING EVENTS: AOPS-FUEL-3001

SUPPORT REQUIREMENTS:

RANGE/TRAINING AREA:

Facility Code 17933 POL Training Area

EQUIPMENT:

- Tactical Fuel System (TFS)
- Engineer MHE and operators
- Motor transport equipment and operators
- Personal protective equipment (PPE)

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS:
- Corpsman
- Security personnel

MWSS-ASO-3001: Employ a medium machinegun team (S/L)

SUPPORTED MET(S): MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

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.

STANDARD: To support the ASO plan.

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. MCTP 3-01C Machine Guns and Machine Gun Gunnery
2. MCWP 3-10 MAGTF Ground Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: MWSS-ASO-5001

SUPPORT REQUIREMENTS:

SIMULATION EVALUATION:

SIMULATED	SUITABILITY	SIMULATOR	UNIT OF MEASURE	HOURS	PM
Yes	S/L	ISMT	Marine Hours	16	Y

NOTES: Simulation hours are recommendations based on input from SMEs during the Simulation Assessment Working Group (SAWG) in Sept 2015. Assigned hours are not intended to be prescriptive or restrictive. Units are encouraged to

catalog actual simulation hours conducted during training in order to update the simulation appendix during the next T&R Manual review.

ORDNANCE:

DODIC	QUANTITY
A131 Cartridge, 7.62mm 4 Ball M80/1 Tracer M62 Linked	882 rounds per Team
A135 Cartridge, 7.62mm Dummy M63	12 rounds per Team

RANGE/TRAINING AREA:

Facility Code 17580 Machine Gun Transition Range
Facility Code 17581 Machine Gun Field Fire Range

EQUIPMENT:
- Medium machinegun systems
- Safety vehicle
- Communications equipment

MATERIAL: Target material

UNITS/PERSONNEL:
- Officer in Charge
- Range Safety Officer
- Corpsman
- Motor transport operator
- Communicator

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.

MWSS-ASO-3002: Employ a heavy machinegun (S/L)

SUPPORTED MET(S): MCT 6.1.1.3.4.1

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

READINESS-CODED: NO

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 ASO plan.

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. MCTP 3-01C Machine Guns and Machine Gun Gunnery
2. MCWP 3-10 MAGTF Ground Operations

CHAINED EVENTS:

INTERNAL SUPPORTED EVENTS: MWSS-ASO-5001

SUPPORT REQUIREMENTS:

SIMULATION EVALUATION:

SIMULATED	SUITABILITY	SIMULATOR	UNIT OF MEASURE	HOURS	PM
Yes	S/L	ISMT	Marine Hours	16	Y

ORDNANCE:

DODIC	QUANTITY
A560 Cartridge, Caliber .50 Dummy M2	20 rounds per Team
A576 Cartridge, Caliber .50 4 API M8/1 API-T M20 Linked	604 rounds per Team
B472 Cartridge, 40mm Dummy M922	20 rounds per Team
B542 Cartridge, 40mm HEDP M430/M430A1 Linked	254 rounds per Team
BA21 Cartridge, 40mm Practice (Day/Night) MK281 Mod 1 Linked	32 rounds per Team

RANGE/TRAINING AREA:

Facility Code 17580 Machine Gun Transition Range
Facility Code 17581 Machine Gun Field Fire Range

EQUIPMENT:
- Heavy machinegun systems
- Safety vehicle
- Communications equipment

MATERIAL: Target material

UNITS/PERSONNEL:
- Officer in Charge
- 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.

SIMULATION: Simulation hours are recommendations based on input from SMEs during the Simulation Assessment Working Group (SAWG) in Sept 2015. Assigned hours are not intended to be prescriptive or restrictive. Units are encouraged to catalog actual simulation hours conducted during training in order to update the simulation appendix during the next T&R Manual review.

MWSS T&R MANUAL

APPENDIX A

ACRONYMS

AAV - amphibious assault vehicle
ACP - automated commissioning package
ACT - accuracy completeness time sequence
ACTS - Assignment, Classification, and Travel Systems
AIRS - Automated Inspection Reporting System
AO - area of operations
APTS - advanced presentation and training skills
AR - Active Reserve
ASTB-E - Aviation Selection Test Battery Series-E
AT4C - advanced tool for coaching
BIC - billet information code
CAPT - Captain
CAR - commander's attainment report
CBRN - chemical, biological, radiological, and nuclear
CBT - computer-based training
CG - commanding general
CMC - Commandant of the Marine Corps
CMR - consolidated memorandum receipt
CO - commanding officer
COA - course of action
CONPLAN - contingency plan
CONUS - continental United States
COT - consecutive overseas tours
CPL - Corporal
CRP - combat readiness percentage; command recruiting program
CSR - consolidated strength report
CWO - chief warrant officer
DEP - delayed entry program
DL - distance learning
DOD - Department of Defense
DoDFMR - Department of Defense Financial Management Regulation
DON - Department of the Navy
DRRS - Defense Readiness Reporting System
EAD - extended active duty
ECFC - enlisted career force controls
ECS - effective communication skills
EFMP - Exceptional Family Member Program
ENLPROM - enlisted promotions
EPM - enlistment processing manual
1STLT - First Lieutenant
FAI - functional area inspection
FLC - formal learning center
FMF - fleet Marine force
FY - fiscal year
GOV - government owned vehicle
GSA - Government Services Administration
GYSGT - Gunnery Sergeant
HOTAS - hands-on throttle and stick
HQMC - Headquarters, Marine Corps
IAW - in accordance with

IGMC - Inspector General of the Marine Corps
IIADT - incremental initial active duty training
IMI - individual multimedia instruction
IPOCT - in place consecutive overseas tours
IRAM - Individual Records Administration Manual
IRR - Individual Ready Reserve
IRT - Itinerant Recruiting Trip
JPIC - Joint Package Inspection Checklist
LATMOV - lateral move
LCPL - Lance Corporal
LDO - limited duty officer; line of duty
LOI - letter of instruction
LSL - lump sum leave
MAJ - Major
MARADMIN - Marine Administrative Message
MARCORPROMMAN - Marine Corps Promotion Manual
MARCORSEPMAN - Marine Corps Separation and Retirement Manual
MARFORRES - Marine Corps Forces Reserve
MASP - military academic skills program
MC2 - Marine Corps Communication and Consulting
MC3 - Marine Corps Communication, Coaching, and Counseling
MC4 - Marine Corps Communication, Consulting, Coaching, and Counseling
MCC - monitored command code
MCEOB - Marine Corps Enlisted Opportunities Book
MCI - Marine Corps Institute
MCMEDS - Marine Corps Medical Entitlements Data System
MCMP - Marine Corps mentoring program
MCO - Marine Corps order
MCOOB - Marine Corps Officer Opportunity Book
MCP3 - Marine Corps Performance, Programming and Philosophy
MCPS - Marine Corps Presentation Skills
MCRAMM - Marine Corps Reserve Administrative Management Manual
MCRC - Marine Corps Recruiting Command
MCRD - Marine Corps Recruit Depot
MCRISS - Marine Corps Recruiting Information Support System
MCRISS-OSS - Marine Corps Recruiting Information Support System-Officer Selection Station
MCRISS-PSRS - Marine Corps Recruiting Information Support System-Prior Service Recruiting Station
MCRISS-PSRSS - Marine Corps Recruiting Information Support System-Prior Service Recruiting Substation
MCRISS-RS - Marine Corps Recruiting Information Support System-Recruiting Station
MCROB - Marine Corps Reserve Opportunity Book
MCT - Marine Corps Task
MCTFSPRIM - Marine Corps Total Force Reporting Instructions Manual
MCTIMS - Marine Corps Training Information Management System
MCTL - Marine Corps Task List
MECEP - Marine Corps Enlisted Commissioning Education Program
MEPCOM - Military Entrance Processing Command
MEPS - Military Entrance Processing Station
MET - mission essential task
METL - mission essential task list
MGIB-R - Montgomery GI Bill-Reserve
MGYSGT - Master Gunnery Sergeant
MIRS - USMEPCOM Integrated Resource System
MISSO - Manpower Information Systems Support Officer

MOJT - Marine on-the-job training
MOL - Marine online
MOS - military occupational specialty
MSC - major subordinate command
MSGT - Master Sergeant
MUD - Merkel Unit Designator
NAMI - Naval Aerial Medical Institute
NAVMC - Navy Marine Corps
NIDT - Non-Instrumented Drug Test
NMCI - Navy Marine Corps Communication Information
NWA - new working applicant
OCHF - Operations Chief
OCM - Officer Commissioning Manual
OCONUS - outside the continental United States
OIC - officer in charge
OPFOR - operating forces; opposing force; opposition force
OPLAN - operational plan
OPNAV - Office of the Chief of Naval Operations
OPNAVINST Chief of Naval Operations instruction
OPS - operations
OPSO - operations officer
ORM - operational risk management
OSO - officer selection officer
OSS - officer selection station
OST - officer selection team
PAC - prospect applicant card
PADD - projected active duty date
PAR - Performance and Review
PFC - Private First Class
PSEP - prior service enlistment program
PSF - public speaking forum
PSR - prior service recruiter
PSRS - prior service recruiting station
PSRSS - prior service recruiting substation
PTAD - permissive temporary additional duty
PVT - Private
QC - quality control
QCIS - quality control SITREP
QSN - quota serial number
RAV - Retention Assist Visit
RECLP - Reserve Enlisted Commissioning Program
RELM - Reenlistment Extension Lateral Move
RI - Recruiter Instructor
ROEP - Reserve Option Enlistment Program
RS - Recruiting Station
RSCE - Recruiting Station Command Element
RSS - Recruiting Substation
RTF - recruiter training file
RUC - reporting unit code
S&R - Schedule and Results
SAT - Systems Approach to Training
SAV - staff assist visit
SDA - special duty assignment
SECNAVINST - Secretary of the Navy instruction
SGT - Sergeant
SGTMAJ - Sergeant Major
SITREP situation report

SMB - SNCOIC Management Book
SMCR - select Marine Corps reserve
SME - subject matter expert
SMOS - supplementary MOS
SNCO - staff noncommissioned officer
SNCOIC - staff noncommissioned officer in charge
SOP - standing operating procedure
SOS - statement of service
SOU - statement of understanding
SRB - selective reenlistment bonus
SRI - Systematic Recruiting Inspection
SRIP - Selected Reserve Incentive Program
SSGT - Staff Sergeant
T&R - training and readiness
T/O - table of organization
TECOM - Training and Education Command
TIP - training input plan
TMS - Training Management System
UMIS - Unit Manpower Information Sheet
UTM - unit training management
WO - Warrant Officer
XO - executive officer

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.

A

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 at 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.

E

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.

M

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.

O

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.

T

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 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.

MWSS T&R MANUAL

APPENDIX C

CLASS V(W) ALLOCATION FOR MWSS TRAINING

1. The Class V requirements listed in this appendix are required for the individual and collective crew served training events for the ABGD and Engineers within the MWSS. The EOD community Class V requirements are contained within NAVMC 3500.66_ EOD T&R Manual.

DODIC	Total Qty for all events	Unit Price	Total Cost for Event
A075 Cartridge, 5.56mm Blank M200 Linked	2800	$0.24	$672.00
A080 Cartridge, 5.56mm Blank M200 Single	3150	$0.17	$535.50
A111 Cartridge, 7.62mm Blank M82 Linked	1400	$0.65	$910.00
AX14 Primer, Percussion 12 Gauge W209	35	$0.06	$2.10
G940 grenade, Hand Green Smoke M18	21	$59.73	$1,254.33
G945 grenade, Hand Yellow Smoke M18	21	$64.42	$1,352.82
G982 grenade, Hand Practice Smoke TA M83	21	$47.72	$1,002.12
J007 Mine, Antipersonnel M18A1 with Non-Electric Mini Shock Tube	7	$230.46	$1,613.22
K139 Mine, Antipersonnel Practice M68	7	$215.47	$1,508.29
K143 Mine, APERS (Claymore) M18A1 w/Accessories Electric Firing System	7	$230.46	$1,613.22
L312 Signal, Illumination Ground White St	7	$37.25	$260.75
L314 Signal, Illumination Ground Green St	7	$46.78	$327.46
L495 Flare, Surface Trip M49/A1 Series	14	$43.97	$615.58
L594 Simulator, Projectile Ground Burst M	14	$24.83	$347.62
L598 Simulator, Explosive Booby Trap Flas	14	$32.21	$450.94
M023 charge, Demolition Block M112 1-1/4	70	$32.49	$2,274.30
M028 Demolition Kit, Bangalore Torpedo M1	7	$580.57	$4,063.99
M032 charge, Demolition Block TNT 1-Pound	147	$20.45	$3,006.15
M039 charge, Demolition Cratering 40-Pound	7	$756.57	$5,295.99
M130 Cap, Blasting Electric M6	252	$46.41	$11,695.32

M131 Cap, Blasting Non-Electric M7	273	$22.86	$6,240.78
M420 charge, Demolition Shaped M2 Series	7	$631.51	$4,420.57
M421 charge, Demolition Shaped M3 Series	7	$1,345.32	$9,417.24
M456 Cord, Detonating PETN Type I Class E	5390	$0.43	$2,317.70
M591 Dynamite, Military M1	490	$0.69	$338.10
M670 Fuse, Blasting Time M700	2821	$0.51	$1,438.71
M757 charge, Assembly Demolition M183 Com	21	$270.38	$5,677.98
M984 charge, Demolition Sheet 0.250 Inch	14		$0.00
ML03 Firing Device, Demolition Multi-Purp	63	$4.87	$306.81
ML47 Cap, Blasting Non-Electric M11 with	7	$71.09	$497.63
MM30 charge, Flexible 20 Gram PETN MK140	28	$4.15	$116.20
MM45 charge, Demolition Flexible Linear S	7	$49.22	$344.54
MM46 charge, Demolition Flexible Linear S	7	$51.42	$359.94
MM47 charge, Demolition Flexible Linear S	7	$71.09	$497.63
MM48 charge, Demolition Flexible Linear S	7	$80.37	$562.59
MN08 Igniter, Time Blasting Fuse with Sho	343	$7.99	$2,740.57
MN14 Firing Device, Dual Mode MK54	7	$382.68	$2,678.76
MN52 Detonator, Percussion, Non-Electric	28	$47.52	$1,330.56
MN88 Cap, Blasting, Non-Electric, M21 w/	28	$128.44	$3,596.32
MN90 Cap, Blasting, Non-Electric, M23 w/	28	$148.18	$4,149.04
TOTAL COST		**$85,833.37**	

MWSS ENGINEER PLATOON - CLASS V ALLOCATION				
(1) Engineer Platoon = (35) Combat Engineers (1) Engineer Team = (5) 1302/1371 (7) Engineer Teams = (1) Engineer Platoon				
ENGR-CMOB-5001 Create an Obstacle Group				
DODIC	**(1) Team**	**(1) Platoon**	**Sustainment**	**Annual Total**
G940 grenade, Hand Green Smoke M18	2 grenades	14 grenades	12 months	14 grenades
G945 grenade, Hand Yellow Smoke M18	2 grenades	14 grenades	12 months	14 grenades
G982 grenade, Hand	2 grenades	14	12 months	14 grenades

Practice Smoke TA M83		grenades		
J007 Mine, Antipersonnel M18A1 with Non-Electric Mini Shock Tube	1 charge	7 charges	12 months	7 charges
K139 Mine, Antipersonnel Practice M68	1 charge	7 charges	12 months	7 charges
K143 Mine, APERS (Claymore) M18A1 w/Accessories Electric Firing System	1 charge	7 charges	12 months	7 charges
L495 Flare, Surface Trip M49/A1 Series	2 flares	14 flares	12 months	14 flares
L594 Simulator, Projectile Ground Burst M	2 simulators	14 simulators	12 months	14 simulators
L598 Simulator, Explosive Booby Trap Flas	2 simulators	14 simulators	12 months	14 simulators
M023 charge, Demolition Block M112 1-1/4	5 charges	35 charges	12 months	35 charges
M032 charge, Demolition Block TNT 1-Pound	11 charges	77 charges	12 months	77 charges
M039 charge, Demolition Cratering 40-Pound	1 charge	7 charges	12 months	7 charges
M130 Cap, Blasting Electric M6	15 blasting caps	105 blasting caps	12 months	105 blasting caps
M131 Cap, Blasting Non-Electric M7	15 Blasting caps	105 blasting caps	12 months	105 blasting caps
M420 charge, Demolition Shaped M2 Series	1 charge	7 charges	12 months	7 charges
M421 charge, Demolition Shaped M3 Series	1 charge	7 charges	12 months	7 charges
M456 Cord, Detonating PETN Type I Class E	345 feet	2415 feet	12 months	2415 feet
M591 Dynamite, Military M1	35 charges	245 charges	12 months	245 charges
M670 Fuse, Blasting Time M700	150 feet	1050 feet	12 months	1050 feet
ML03 Firing Device, Demolition Multi-Purpose	4 detonators	28 detonators	12 months	28 detonators
MN08 Igniter, Time Blasting Fuse with Sho	17 igniters	119 igniters	12 months	119 igniters

NOTE: When event (ENGR-CMOB-5001) is completed, the below listed events are accomplished.

Internal Supporting Individual Events	**CLASS V REQUIRED**
1371-CMOB-1002: Construct field expedient obstacles	No requirement based on accomplishing ENGR-CMOB-5001
1371-CMOB-1003:Employ explosive obstacles	No requirement based on accomplishing ENGR-CMOB-5001
1371-DEMO-1001: Employ military explosives	No requirement based on accomplishing ENGR-CMOB-5001
1302-DEMO-1001: Employ demolitions	No requirement based on accomplishing ENGR-CMOB-5001

1371-DEMO-1002: Create craters and ditches using explosives	No requirement based on accomplishing ENGR-CMOB-5001
1302-DEMO-1002: Engage targets with expedient demolitions	No requirement based on accomplishing ENGR-CMOB-5001
1371-CMOB-2002: Employ Early warning systems	No requirement based on accomplishing ENGR-CMOB-5001
Internal Supporting Collective Events	**CLASS V REQUIRED**
ENGR-CMOB-4001: Create an explosive obstacle	No requirement based on accomplishing ENGR-CMOB-5001
ENGR-CMOB-4002: Create a non-explosive obstacle/barriers	No requirement based on accomplishing ENGR-CMOB-5001
ENGR-CMOB-3001: Construct demolition obstacles	No requirement based on accomplishing ENGR-CMOB-4001
ENGR-CMOB-3002: Construct field expedient obstacles	No requirement based on accomplishing ENGR-CMOB-4001
ENGR-CMOB-3003: Employ explosive obstacles	No requirement based on accomplishing ENGR-CMOB-4001
ENGR-CMOB-3004: Build non-explosive obstacles	No requirement based on accomplishing ENGR-CMOB-4002
NOTE: The events below provide DODIC/Shot information to complete the individual events in support of ENGR-CMOB-5001. This not an additional listing of Class V, it is merely a breakdown of usage to complete	

1371-CMOB-1002: Construct field expedient obstacles

DODIC	**(1) Team**	**(1) Platoon**	**Sustainment**	**Annual Total**
M131 Cap, Blasting Non-Electric M7	7 blasting caps	49 blasting caps	12 months	49 blasting caps
M456 Cord, Detonating PETN Type I Class E	100 feet	700 feet	12 months	700 feet
M670 Fuse, Blasting Time M700	50 feet	350 feet	12 months	350 feet
MN08 Igniter, Time Blasting Fuse with Shock Tube Capability	5 igniters	35 igniters	12 months	35 igniters
M032 charge, Demolition Block TNT 1-Pound	5 charges	35 charges	12 months	35 charges
M591 Dynamite, Military M1	20 charges	140 charges	12 months	140 charges
M130 Cap, Blasting Electric M6	4 blasting caps	28 blasting caps	12 months	28 blasting caps

TASK CALCULATION PARAMETERS: Shots taken into consideration were: Hasty, deliberate, and relieved face craters and a simulated abatis charge using a four (4) lb TNT lower charge and a one (1) lb TNT kicker
Shots calculated for dual primed 5 min NE systems or Dual primed Elec systems
Craters = to 10lbs Dynamite at 1' depth
NOTE: Conducting any one of the three types of cratering charges (Hasty, deliberate, or relieved face) accomplishes requirements of the other two. i.e. building a charge to for a hasty crater is no different than building a charge for a deliberate or relieved face, the only thing that changes are the calculations on hole placement, depth, and amount of demolitions per

hole. Test burns were calculated into quantities.				
1371-DEMO-1001: Employ military explosives 1302-DEMO-1001: Employ demolitions				
DODIC	**(1) Team**	**(1) Platoon**	**Sustainment**	**Annual Total**
M023 charge, Demolition Block M112 1-1/4	5 charges	35 charges	12 months	35 charges
M456 Cord, Detonating PETN Type I Class E	150 feet	1050 feet	12 months	1050 feet
M131 Cap, Blasting Non-Electric M7	4 blasting caps	28 blasting caps	12 months	28 blasting caps
M670 Fuse, Blasting Time M700	50 feet	350 feet	12 months	350 feet
MN08 Igniter, Time Blasting Fuse with Shock Tube Capability	6 igniters	42 igniters	12 months	42 igniters
M032 charge, Demolition Block TNT 1-Pound	5 charges	35 charges	12 months	35 charges
M130 Cap, Blasting Electric M6	5 blasting caps	35 blasting caps	12 months	35 blasting caps
M591 Dynamite, Military M1	5 charges	35 charges	12 months	35 charges
NOTE: Employing basic military explosives is the foundation in which building all other explosive charges are based. Quantities based off conducting shots very similar to the basic combat engineer course; 1 non electric ring main using C-4, 1 electric circuit using TNT, and 1 Trunk line using Dynamite. Non-electric shots utilized a dual primed 5 min firing system. Test burns were calculated into quantities.				
1371-DEMO-1002: Create craters and ditches using explosives 1371-DEMO-1001: Employ military explosives 1302-DEMO-1001: Employ demolitions				
DODIC	**(1) Team**	**(1) Platoon**	**Sustainment**	**Annual Total**
M039 charge, Demolition Cratering 40-Pound	1 charge	7 charges	12 months	7 charges
M032 charge, Demolition Block TNT 1-Pound	1 charge	7 charges	12 months	7 charges
M456 Cord, Detonating PETN Type I Class E	95 feet	665 feet	12 months	665 feet
M131 Cap, Blasting Non-Electric M7	4 blasting caps	28 blasting caps	12 months	28 blasting caps
M670 Fuse, Blasting Time M700	50 feet	350 feet	12 months	350 feet
MN08 Igniter, Time Blasting Fuse with Sho	6 igniters	42 igniters	12 months	42 igniters
M420 charge, Demolition Shaped M2 Series	1 charge	7 charges	12 months	7 charges
M130 Cap, Blasting Electric M6	6 blasting cap	42 blasting caps	12 months	42 blasting caps

M421 charge, Demolition Shaped M3 Series	1 charge	7 charges	12 months	7 charges
M591 Dynamite, Military M1 (Ditch)	10 charges	70 charges	12 months	70 charges
NOTE: Calculations for cratering charge were based off standard priming of a cratering charge, utilizing 1lb booster and 5 min dual primed non-electric or Elec firing systems. Ditching charge was calculated using 2 sticks of dynamite placed at a two' depth primed with det and utilizing 5 min dual primed non-electric or Elec firing systems. Test burns were calculated into quantities.				
1371-CMOB-2002: Employ Early warning systems				
DODIC	**(1) Team**	**(1) Platoon**	**Sustainment**	**Annual Total**
G940 grenade, Hand Green Smoke M18	2 grenades	14 grenades	12 months	14 grenades
G945 grenade, Hand Yellow Smoke M18	2 grenades	14 grenades	12 months	14 grenades
G982 grenade, Hand Practice Smoke TA M83	2 grenades	14 grenades	12 months	14 grenades
L495 Flare, Surface Trip M49/A1 Series	2 flares	14 flares	12 months	14 flares
L594 Simulator, Projectile Ground Burst M	2 simulators	14 simulators	12 months	14 simulators
L598 Simulator, Explosive Booby Trap Flas	2 simulators	14 simulators	12 months	14 simulators
ML03 Firing Device, Demolition Multi-Purp	4 detonators	28 detonators	12 months	28 detonators
ENGR-DEMO-5001 Conduct demolition operations				
DODIC	**(1) Team**	**(1) Platoon**	**Sustainment**	**Annual Total**
AX14 Primer, Percussion 12 Gauge W209	5 primers	35 primers	12 months	35 primers
A075 Cartridge, 5.56mm Blank M200 Linked	400 rounds	2800 rounds	12 months	2800 rounds
A080 Cartridge, 5.56mm Blank M200 Single	450 rounds	3150 rounds	12 months	3150 rounds
A111 Cartridge, 7.62mm Blank M82 Linked	200 rounds	1400 rounds	12 months	1400 rounds
G940 grenade, Hand Green Smoke M18	1 grenade	7 grenades	12 months	7 grenades
G945 grenade, Hand Yellow Smoke M18	1 grenade	7 grenades	12 months	7 grenades
G982 grenade, Hand Practice Smoke TA M83	1 grenade	7 grenades	12 months	7 grenades
L312 Signal, Illumination Ground White St	1 flare	7 flares	12 months	7 flares
L314 Signal, Illumination Ground Green St	1 flare	7 flares	12 months	7 flares
M023 charge, Demolition Block M112 1-1/4	5 charges	35 charges	12 months	35 charges
M028 Demolition Kit, Bangalore Torpedo M1	1 kit	7 Kits	12 months	7 Kits
M032 charge, Demolition	10 charges	70 charges	12 months	70 charges

Block TNT 1-Pound				
M039 charge, Demolition Cratering 40-Pound	1 charge	7 charges	12 months	7 charges
M130 Cap, Blasting Electric M6	21 blasting caps	147 blasting caps	12 months	147 blasting caps
M131 Cap, Blasting Non-Electric M7	24 blasting caps	168 blasting caps	12 months	168 blasting caps
M456 Cord, Detonating PETN Type I Class E	425 feet	2975feet	12 months	2975 feet
M591 Dynamite, Military M1	35 charges	245 charges	12 months	245 charges
M670 Fuse, Blasting Time M700	253 feet	1771 feet	12 months	1771 feet
M757 charge, Assembly Demolition M183 Com	3 charges	21 charges	12 months	21 charges
M984 charge, Demolition Sheet 0.250 Inch	2 feet	14 feet	12 months	14 feet
ML03 Firing Device, Demolition Multi-Purp	5 detonators	35 detonators	12 months	35 detonators
ML47 Cap, Blasting Non-Electric M11 with	1 blasting caps	7 blasting caps	12 months	7 blasting caps
MM30 charge, Flexible 20 Gram PETN MK140	4 charges	28 charges	12 months	28 charges
MM45 charge, Demolition Flexible Linear S	1 charges	7 charges	12 months	7 charges
MM46 charge, Demolition Flexible Linear S	1 charges	7 charges	12 months	7 charges
MM47 charge, Demolition Flexible Linear S	1 charges	7 charges	12 months	7 charges
MM48 charge, Demolition Flexible Linear S	1 charges	7 charges	12 months	7 charges
MN08 Igniter, Time Blasting Fuse with Sho	32 igniters	224 igniters	12 months	224 igniters
MN14 Firing Device, Dual Mode MK54	1 ignitor	7 igniters	12 months	7 igniters
MN52 Detonator, Percussion, Non-Electric	4 detonators	28 detonators	12 months	28 detonators
MN88 Cap, Blasting, Non-Electric, M21 w/	4 igniters	28 igniters	12 months	28 igniters
MN90 Cap, Blasting, Non-Electric, M23 w/	4 igniters	28 igniters	12 months	28 igniters
NOTE: When event (ENGR-DEMO-5001) is completed, the below listed events are accomplished.				
Internal Supporting Individual Events		**CLASS V REQUIRED**		
1371-MOBL-1001: Breach non-explosive obstacles		No requirement based on accomplishing ENGR-DEMO-5001		
1371-DEMO-1001: Employ military explosives		No requirement based on accomplishing ENGR-DEMO-5001		
1302-DEMO-1001: Employ demolitions		No requirement based on accomplishing ENGR-DEMO-5001		
Internal Supporting Collective Events		**CLASS V REQUIRED**		

ENGR-MOBL-5003: Conduct area clearance operations	No requirement based on accomplishing ENGR-DEMO-5001
ENGR-MOBL-4004: Conduct dismounted route sweep operations	No requirement based on accomplishing ENGR-DEMO-5001
ENGR-MOBL-4005 Employ demolitions in support of mobility operations	No requirement based on accomplishing ENGR-DEMO-5001
ENGR-SURV-4006: Employ demolitions in support of survivability operations	

NOTE: The events below provide DODIC/Shot information to complete the individual events in support of ENGR-DEMO-5001. This not an additional listing of Class V, it is merely a breakdown of usage to complete

1371-MOBL-1001: Breach non-explosive obstacles
1371-DEMO-1001: Employ military explosives
1302-DEMO-1001: Employ demolitions

DODIC	(1) Team	(1) Platoon	Sustainment	Annual Total
A075 Cartridge, 5.56mm Blank M200 Linked	400 rounds	2800 rounds	12 months	2800 rounds
A080 Cartridge, 5.56mm Blank M200 Single	450 rounds	3150 rounds	12 months	3150 rounds
A111 Cartridge, 7.62mm Blank M82 Linked	200 rounds	1400 rounds	12 months	1400 rounds
G940 Grenade, Hand Green Smoke M18	1 grenade	7 grenades	12 months	7 grenades
G945 Grenade, Hand Yellow Smoke M18	1 grenade	7 grenades	12 months	7 grenades
G982 Grenade, Hand Practice Smoke TA M83	1 grenade	7 grenades	12 months	7 grenades
L312 Signal, Illumination Ground White St	1 flare	7 flares	12 months	7 flares
L314 Signal, Illumination Ground Green St	1 flare	7 flares	12 months	7 flares
M028 Demolition Kit, Bangalore Torpedo M1	1 kit	7 Kits	12 months	7 Kits
M032 Charge, Demolition Block TNT 1-Pound	10 charges	70 charges	12 months	70 charges
M757 Charge, Assembly Demolition M183 Com	2 charges	14 charges	12 months	14 charges
M130 Cap, Blasting Electric M6	14 blasting caps	98 blasting caps	12 months	98 blasting caps
M131 Cap, Blasting Non-Electric M7	8 blasting caps	56 blasting caps	12 months	56 blasting caps
M456 Cord, Detonating PETN Type I Class E	230 feet	1610 feet	12 months	1610 feet
M670 Fuse, Blasting Time M700	135 feet	945 feet	12 months	945 feet
MN08 Igniter, Time Blasting Fuse with Sho	16 igniters	112 igniters	12 months	112 igniters

NOTE: Quantities will allow Bang kit to be initiated as a whole utilizing a dual prime 5 min non-elec or elec shot, or as individual sections utilizing a single 2 min non-elec firing system. TNT and Satchel charges were

calculated for use in tree cutting (Internal/External) and/or stump removal. Test burns were calculated into quantities.				
1371-MOBL-2015: Perform select shot drills with the shotgun				
DODIC	**Per Marine**	**(1) Platoon**	**Sustainment**	**Annual Total**
A011 Cartridge, 12 Gauge #00 Buckshot M16	6 rounds	210 rounds	12 months	210 rounds
A023 Cartridge, 12 Gauge 1 Ounce Slug Com	3rounds	105 rounds	12 months	105 rounds
AA54- Cartridge, 12 Gauge, Breaching, M103	3rounds	105 rounds	12 months	105 rounds
1371-MOBL-2016: Qualify with the shotgun				
DODIC	**Per Marine**	**(1) Platoon**	**Sustainment**	**Annual Total**
A011 Cartridge, 12 Gauge #00 Buckshot M16	10 rounds	350 rounds	12 months	350 rounds
TOTAL COST FOR ONE MWSS ENGINEER PLATOON - ANNUAL SUSTAINMENT				**$85,833.37**

MWSS T&R MANUAL

APPENDIX D

LIST OF T&R EVENTS THAT REQUIRE SIMULATION

1. Listed in this appendix are Simulation systems used for Marine Wing Support Squadron (MWSS).

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.

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.

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.

S - Event can ONLY be conducted to standard and qualification within a simulator

3. Terms

Suitability and Sequence Code - 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.

Unit of Measure - 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.

MAGTF Tactical Warfare Simulation (MTWS)			
Event Code	Event Title	Suitability Code	Unit of Measure Hours
SQDN-OPS-7003	Establish Forward Operating Base (FOB)	S/L	80

SQDN-OPS-7002	Operate Aviation Ground Support Operations Center (AGSOC)	S/L	80
SQDN-OPS-7001	Command and Control Aviation Ground Support (AGS)	S/L	80
SQDN-PLAN-7003	Plan Base Recovery After Attack (BRAAT)operations	S/L	80
SQDN-PLAN-7002	Plan FOB operations	S/L	80
SQDN-PLAN-7001	Plan Aviation Ground Support AGS operations	S/L	80

Tactical Engagement Simulation System (I-TESS)

Event Code	Event Title	Suitability Code	Unit of Measure Hours
ENGR-MOBL-4005	Employ demolitions in support of coutermobility operations	S/L	40
ENGR-CMOB-4001	Create an explosive obstacle	S/L	40

Infantry Immersion Training (IIT)

Event Code	Event Title	Suitability Code	Unit of Measure Hours
ENGR-MOBL-4004	Conduct dismounted route sweep operations	S/L	24
ENGR-RECN-4004	Conduct area reconnaissance	S/L	24
ENGR-RECN-4003	Conduct route reconnaissance	S/L	24
ENGR-RECN-4002	Conduct zone reconnaissance	S/L	24

Indoor Simulated Marksmanship Trainers (ISMT)

Event Code	Event Title	Suitability Code	Unit of Measure Hours
MWSS-ASO-3001	Employ a light machine gun	S/L	16
MWSS-ASO-3002	Employ a medium machine gun team	S/L	16
MWSS-ASO-3003	Employ a heavy machine gun team	S/L	16

Deployable Virtual Training Environment (DVTE)

Event Code	Event Title	Suitability Code	Unit of Measure Hours
ENGR-MOBL-5003	Conduct area clearance operations	S/L	24
ENGR-CMOB-5001	Create an obstacle group	S/L	24
ENGR-DEMO-5001	Conduct demolition operations	S/L	24
ENGR-RECN-5001	Conduct engineer reconnaissance	S/L	24
ENGR-CMOB-4002	Create a non-explosive obstacle/barriers	S/L	24
ENGR-MOBL-4001	Conduct route improvement	S/L	24
ENGR-RECN-3004	Conduct obstacle reconnaissance	S/L	24

SIMULATION SYTEMS USED FOR ENGINEER INDIVIDUAL EVENT TRAINING

Deployable Virtual Training Environment (DVTE)

Event Code	Event Title	Suitability Code	Unit of Measure Hours
1371-CMOB-2001	Prepare an obstacle plan	L/S	24
1371-MOBL-2009	Lead Obstacle Clearing detachment	L/S	24
1371-MOBL-2010	Lead Dismounted Clearing mission	L/S	24
1371-MOBL-2011	Identify Explosive Hazards (EH)	L/S	24
1371-MOBL-2014	Lead a mounted clearance element	L/S	24
1371-MOBL-2020	Operate the Medium Mine Protected Vehicle (MMPV)	L/S	24
1371-MOBL-2021	Operate the Mine Protected Clearance (Vehicle MPCV)	L/S	24
1371-MOBL-2022	Operate the Vehicle Mounted Mine Detector (VMMD)	L/S	24
1371-MOBL-2023	Operate Clearance Vehicle Government Furnished Equipment (GFE)	L/S	24
1371-MOBL-2505	Plan breaching of complex obstacles	L/S	24
1371-MOBL-2506	Plan clearing operations	L/S	24
1371-MOBL-2507	Lead clearing operations	L/S	24
1302-CMOB-1001	Lead obstacle emplacement	L/S	24
1302-CMOB-1002	Prepare an obstacle plan	L/S	24
1302-DEMO-1004	Lead demolition operations	L/S	24
1302-MOBL-1002	Lead dismounted clearing operations	L/S	24
1302-MOBL-1003	Lead mounted clearing operations	L/S	24
1302-MOBL-1004	Lead a convoy	L/S	24
1302-MOBL-1007	Plan breaching of a complex obstacle	L/S	24
1302-MOBL-1009	Identify Explosive Hazards	L/S	24