



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

NAVMC 3500.6C
C 466
6 Nov 2017

NAVMC 3500.6C

From: Commandant of the Marine Corps
To: Distribution List

Subj: GROUND ELECTRONICS MAINTENANCE TRAINING AND READINESS MANUAL

Ref: (a) MCO P3500.72A
(b) MCO 1553.3B
(c) MCTP 8-10A
(d) MCTP 8-10B
(e) MCO 1553.2C

Encl: (1) GEM 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 in the ground electronics maintenance occupational field.

2. Cancellation. NAVMC 3500.6B.

3. Scope


a. 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. References (c) and (d) provide amplifying information for effective planning and management of training within the unit.

b. Formal school and training detachment commanders will use references (a) and (e) to ensure programs of instruction meet skill training requirements established in this manual and provides career-progression training in the events designated for initial training in the formal school environment.

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.

DISTRIBUTION STATEMENT A: Approved for public release; distribution is unlimited.

5. Command. This Manual is applicable to the Marine Corps Total Force.
6. Certification. Reviewed and approved this date.


K. M. TIAMS
By direction

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Log completed change action as indicated.

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

CHAPTER

APPENDICES

Enclosure (1)

GROUND ELECTRONICS MAINTENANCE T&R MANUAL

CHAPTER 1

OVERVIEW

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GROUND ELECTRONICS MAINTENANCE T&R MANUAL

CHAPTER 1

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 expert(s) (SME) from the operating force(s) (OPFOR) developed core capability mission essential task list(s) (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 task(s) (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 Ground Electronics Maintenance T&R Manual is comprised of 16 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 Community, which are used as part of DRRS. Chapter 3 contains collective events. Chapters 4 contains individual events that are considered whole occupational field skills. Chapters 5 through 16 contain individual events specific to a particular MOS and/or billet, as noted. Appendix A contains acronyms; Appendix B contains terms and definitions; Appendix C contains references; Appendix D contains Maintenance Shop Organization.

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
<u>Event level</u>	

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	
<u>SUPPORTED MET(S):</u> MCT #.#.#	
<u>EVALUATION CODED:</u> YES/NO	<u>SUSTAINMENT INTERVAL:</u> 12 months
<u>DESCRIPTION:</u> Text	
<u>CONDITION:</u> Text	
<u>STANDARD:</u> Text	
<u>EVENT COMPONENTS:</u>	
1. Event component.	
2. Event component.	
3. Event component.	
<u>REFERENCES:</u>	
1. Reference	
2. Reference	
3. Reference	
<u>PREREQUISITE EVENTS:</u>	
XXXX-XXXX-####	XXXX-XXXX-####
<u>INTERNAL SUPPORTED:</u>	
XXXX-XXXX-####	XXXX-XXXX-####

<u>INTERNAL SUPPORTING:</u>	
XXXX-XXXX-####	XXXX-XXXX-####
<u>SUPPORT REQUIREMENTS:</u>	
<u>EQUIPMENT:</u> XXX	
<u>MISCELLANEOUS:</u> XXX	
<u>ADMINISTRATIVE INSTRUCTIONS:</u> XXX	

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

<u>XXXX-XXXX-####:</u> Stand a sentry post	
<u>EVALUATION CODED:</u> NO	<u>SUSTAINMENT INTERVAL:</u> 12 months
<u>DESCRIPTION:</u> Text	
<u>MOS PERFORMING:</u> ####, ####	
<u>INITIAL TRAINING SETTING:</u> XXX	
<u>CONDITION:</u> Text	
<u>STANDARD:</u> Text	
<u>PERFORMANCE STEPS:</u>	
1. Event component.	
2. Event component.	
3. Event component.	
<u>REFERENCES:</u>	
1. Reference	
2. Reference	
3. Reference	
<u>PREREQUISITE EVENTS:</u>	
XXXX-XXXX-####	XXXX-XXXX-####
<u>INTERNAL SUPPORTED:</u>	
XXXX-XXXX-####	XXXX-XXXX-####
<u>INTERNAL SUPPORTING:</u>	
XXXX-XXXX-####	XXXX-XXXX-####
<u>SUPPORT REQUIREMENTS:</u>	
<u>EQUIPMENT:</u> XXX	
<u>MISCELLANEOUS:</u> XXX	
<u>ADMINISTRATIVE INSTRUCTIONS:</u> 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 Simulatable 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)					
<u>SUPPORT REQUIREMENTS:</u>					
<u>SIMULATION EVALUATION:</u>					
<u>SIMULATED</u>	<u>SUITABILITY</u>	<u>SIMULATOR</u>	<u>UNIT OF MEASURE</u>	<u>HOURS</u>	<u>PM</u>
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: $325 \text{ (total MET CRP)} / 5 \text{ (total number of METS)} = 65\%$

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.

GROUND ELECTRONICS MAINTENANCE T&R MANUAL

CHAPTER 2

MISSION ESSENTIAL TASKS MATRIX

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CLR (DIRECT SUPPORT (DS)) CORE MET.	2001	2-2
CLR (GENERAL SUPPORT (GS)) CORE MET	2002	2-2
COMBAT LOGISTICS BATTALION (CLB) (DS)) CORE MET	2003	2-3
CLB (GS) CORE MET	2004	2-3
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GROUND ELECTRONICS MAINTENANCE T&R MANUAL

CHAPTER 2

MISSION ESSENTIAL TASKS MATRIX

2000. COMBAT LOGISTICS REGIMENT (CLR) (FORWARD (FWD)) CORE MET

The CLR (FWD) MET table lists the standardized core METs for the CLR (FWD) that are directly supported by 28XX T&R events. These tasks are used for readiness reporting in the DRRS.

CLR (FWD) METL

MCT 5.1.1 Provide and Maintain Communications
--

2001. CLR (DIRECT SUPPORT (DS)) CORE MET

The CLR (DS) MET table lists the standardized core METs for the CLR (DS) that are directly supported by 28XX T&R events. These tasks are used for readiness reporting in the DRRS.

CLR (DS) METL

MCT 4.2.2.4 Conduct Repair	
GEM-MAIN-5001	Provide field level maintenance support for power supply equipment
GEM-MAIN-6001	Provide field level maintenance support for ground electronics equipment
GEM-OPS-6001	Deploy a ground electronics maintenance activity
MCT 4.2.2.5 Conduct Modification	
GEM-MAIN-5001	Provide field level maintenance support for power supply equipment
GEM-OPS-6001	Deploy a ground electronics maintenance activity
MCT 4.2.2.8 Conduct Recovery and Evacuation Operations	
GEM-MAIN-5001	Provide field level maintenance support for power supply equipment
GEM-OPS-6001	Deploy a ground electronics maintenance activity

2002. CLR (GENERAL SUPPORT (GS)) CORE MET

The CLR (GS) MET table lists the standardized core METs for the CLR (GS) that are directly supported by 28XX T&R events. These tasks are used for readiness reporting in the DRRS.

CLR (GS) MET

MCT 4.2.2 Conduct Ground Equipment Maintenance	
GEM-ADMN-3001	Provide maintenance administration support for field level ground electronics maintenance
GEM-MAIN-3001	Provide maintenance shop office/operations support for field level ground electronics maintenance

GEM-MAIN-6001	Provide field level maintenance support for ground electronics equipment
GEM-OPS-6001	Deploy a ground electronics maintenance activity
GEM-SVC-3001	Provide services support for field level ground electronics maintenance

2003. COMBAT LOGISTICS BATTALION (CLB) (DS)) CORE MET

The CLB (DS) MET table lists the standardized core METs for the CLB (DS) that are directly supported by 28XX T&R events. These tasks are used for readiness reporting in the DRRS.

CLB (DS) MET

MCT 4.2.2.4 Conduct Repair	
GEM-MAIN-5001	Provide field level maintenance support for power supply equipment
GEM-MAIN-6001	Provide field level maintenance support for ground electronics equipment
GEM-OPS-6001	Deploy a ground electronics maintenance activity
MCT 4.2.2.5 Conduct Modification	
GEM-MAIN-5001	Provide field level maintenance support for power supply equipment
GEM-OPS-6001	Deploy a ground electronics maintenance activity
MCT 4.2.2.8 Conduct Recovery and Evacuation Operations	
GEM-MAIN-5001	Provide field level maintenance support for power supply equipment
GEM-OPS-6001	Deploy a ground electronics maintenance activity

2004. CLB (GS) CORE MET

The CLR (GS) MET table lists the standardized core METs for the CLR (GS) that are directly supported by 28XX T&R events. These tasks are used for readiness reporting in the DRRS.

CLB (GS) MET

MCT 4.2.2.1 Conduct Inspection & Classification	
GEM-MAIN-5001	Provide field level maintenance support for power supply equipment
GEM-MAIN-6001	Provide field level maintenance support for ground electronics equipment
GEM-OPS-6001	Deploy a ground electronics maintenance activity
MCT 4.2.2.2 Conduct Service, Adjustment, & Tuning	
GEM-MAIN-5001	Provide field level maintenance support for power supply equipment
GEM-MAIN-6001	Provide field level maintenance support for ground electronics equipment
GEM-OPS-6001	Deploy a ground electronics maintenance activity
MCT 4.2.2.3 Conduct Testing & Calibration	
CAL-MGMT-3001	Manage calibrations laboratory programs
GEM-MAIN-6001	Provide field level maintenance support for ground electronics equipment

GEM-MAIN-6002	Provide Testing & Calibration support
MCT 4.2.2.4 Conduct Repair	
GEM-MAIN-5001	Provide field level maintenance support for power supply equipment
GEM-MAIN-6001	Provide field level maintenance support for ground electronics equipment
GEM-OPS-6001	Deploy a ground electronics maintenance activity
MCT 4.2.2.5 Conduct Modification	
GEM-MAIN-5001	Provide field level maintenance support for power supply equipment
GEM-OPS-6001	Deploy a ground electronics maintenance activity
MCT 4.2.2.8 Conduct Recovery and Evacuation Operations	
GEM-MAIN-5001	Provide field level maintenance support for power supply equipment
GEM-OPS-6001	Deploy a ground electronics maintenance activity

2005. MAINTENANCE (MAINT) BATTALION (BN) CORE MET

The Maint Bn MET table lists the standardized core METs for the Maint Bn that are directly supported by 28XX T&R events. These tasks are used for readiness reporting in the DRRS.

MAINT BN MET

MCT 4.2.2 Conduct Ground Equipment Maintenance	
GEM-ADMN-3001	Provide maintenance administration support for field level ground electronics maintenance
GEM-MAIN-3001	Provide maintenance shop office/operations support for field level ground electronics maintenance
GEM-MAIN-6001	Provide field level maintenance support for ground electronics equipment
GEM-OPS-6001	Deploy a ground electronics maintenance activity
GEM-SVC-3001	Provide services support for field level ground electronics maintenance
MCT 4.2.2.1 Conduct Inspection & Classification	
GEM-MAIN-5001	Provide field level maintenance support for power supply equipment
GEM-MAIN-6001	Provide field level maintenance support for ground electronics equipment
GEM-OPS-6001	Deploy a ground electronics maintenance activity
MCT 4.2.2.2 Conduct Service, Adjustment, & Tuning	
GEM-MAIN-5001	Provide field level maintenance support for power supply equipment
GEM-MAIN-6001	Provide field level maintenance support for ground electronics equipment
GEM-OPS-6001	Deploy a ground electronics maintenance activity
MCT 4.2.2.3 Conduct Testing & Calibration	
CAL-MGMT-3001	Manage calibrations laboratory programs
GEM-MAIN-6001	Provide field level maintenance support for ground electronics equipment
GEM-MAIN-6002	Provide Testing & Calibration support
MCT 4.2.2.4 Conduct Repair	
GEM-MAIN-5001	Provide field level maintenance support for power supply equipment

GEM-MAIN-6001	Provide field level maintenance support for ground electronics equipment
GEM-OPS-6001	Deploy a ground electronics maintenance activity
MCT 4.2.2.5 Conduct Modification	
GEM-MAIN-5001	Provide field level maintenance support for power supply equipment
GEM-OPS-6001	Deploy a ground electronics maintenance activity
MCT 4.2.2.8 Conduct Recovery and Evacuation Operations	
GEM-MAIN-5001	Provide field level maintenance support for power supply equipment
GEM-OPS-6001	Deploy a ground electronics maintenance activity

2006. GROUND ELECTRONICS MAINTENANCE MISSION ESSENTIAL TASKS MATRIX

The Ground Electronics Maintenance MET Matrix contains the METs identified in the CLR (FWD), CLR (DS), CLR (GS), CLB (DS), CLB (GS), and Maint Bn METs. The Ground Electronics Maintenance MET matrix includes the designated MET number and supporting collective events.

MET#/MISSION ESSENTIAL TASK

MCT 4.2 Conduct Maintenance Operations	
GEM-MAIN-6001	Provide field level maintenance support for ground electronics equipment
MCT 4.2.1.2 Conduct Intermediate Maintenance	
GEM-MAIN-5001	Provide field level maintenance support for power supply equipment
MCT 4.2.2 Conduct Ground Equipment Maintenance	
GEM-MAIN-6001	Provide field level maintenance support for ground electronics equipment
MCT 4.2.2.1 Conduct Inspection & Classification	
GEM-MAIN-5001	Provide field level maintenance support for power supply equipment
MCT 4.2.2.2 Conduct Service, Adjustment, & Tuning	
GEM-MAIN-5001	Provide field level maintenance support for power supply equipment
MCT 4.2.2.3 Conduct Testing & Calibration	
GEM-MAIN-6002	Provide Testing & Calibration support
MCT 4.2.2.4 Conduct Repair	
GEM-MAIN-5001	Provide field level maintenance support for power supply equipment
MCT 4.2.2.5 Conduct Modification	
GEM-MAIN-5001	Provide field level maintenance support for power supply equipment
MCT 4.2.2.8 Conduct Recovery and Evacuation Operations	
GEM-MAIN-5001	Provide field level maintenance support for power supply equipment

GROUND ELECTRONICS MAINTENANCE T&R MANUAL

CHAPTER 3

COLLECTIVE EVENTS

	<u>PARAGRAPH</u>	<u>PAGE</u>
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GROUND ELECTRONICS MAINTENANCE T&R MANUAL

CHAPTER 3

COLLECTIVE EVENTS

3000. PURPOSE. Chapter 3 contains collective training events for the Ground Electronics Maintenance (28XX) occupational field.

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:

<u>Code</u>	<u>Description</u>
CAL	Calibrations
GEM	Ground Electronics Maintenance

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

<u>Code</u>	<u>Description</u>
ADMN	Maintenance Administration
MAIN	Maintenance
MGMT	Maintenance Management
OPS	Operations
SVC	Maintenance Services

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

<u>Code</u>	<u>Description</u>
6000	Maintenance Shop Level
5000	Maintenance Section Level
3000	Maintenance Management Section Level

3002. INDEX OF COLLECTIVE EVENTS

Event Code	E-Coded	Event	Page
6000 Level Events			
GEM-MAIN-6001	YES	Provide field level maintenance support for ground electronics equipment	3-3
GEM-MAIN-6002	YES	Provide Testing & Calibration support	3-4
GEM-OPS-6001	NO	Deploy a ground electronics maintenance activity	3-5
5000 Level Events			

GEM-MAIN-5001	NO	Provide field level maintenance support for power supply equipment	3-6
3000 Level Events			
GEM-ADMN-3001	NO	Provide maintenance administration support for field level ground electronics maintenance	3-7
GEM-MAIN-3001	NO	Provide maintenance shop office/operations support for field level ground electronics maintenance	3-8
GEM-SVC-3001	NO	Provide services support for field level ground electronics maintenance	3-8

3003. LIST OF COLLECTIVE EVENTS

GEM-MAIN-6001: Provide field level maintenance support for ground electronics equipment

SUPPORTED MET(S):

MCT 4.2.1.2	MCT 4.2.2	MCT 4.2.2.1
MCT 4.2.2.2	MCT 4.2.2.3	MCT 4.2.2.4

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

DESCRIPTION: This event is for a maintenance shop whose primary mission/task is to provide field level maintenance support for multiple equipment types within the ground electronics commodity. Doctrinally, a maintenance shop will consist of a shop office/operations section, a services section, an administrative section, and two or more subordinate maintenance sections whose focus is performing maintenance on one or more of the equipment types. In practice, the actual shop organization, especially with regard to the maintenance management functions (shop office/operations section, services section, and administrative section) will vary.

Units perform the full range of field level maintenance depending on capabilities and mission requirements. Unit leaders will prioritize training based upon assigned missions and tasks as found on the unit's table of organization and equipment and in accordance with commander's intent. Maintenance units must be prepared to perform the full range of maintenance in accordance with doctrine and policy.

CONDITION: Given a mission, personnel, and equipment.

STANDARD: Retaining materiel in or restoring it to a specified condition in accordance with MCO 4790.2 FIELD-LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP).

EVENT COMPONENTS:

1. Plan ground electronics maintenance operations.
2. Provide maintenance shop office/operations support for field level ground electronics maintenance.
3. Provide services support for field level ground electronics maintenance.
4. Provide maintenance administrative support for field level ground electronics maintenance.

5. Provide field level maintenance support for artillery electronics equipment.
6. Provide field level maintenance support for complex circuit cards.
7. Provide field level maintenance support for IT equipment.
8. Provide field level maintenance support for telecommunications equipment.
9. Provide field level maintenance support for DWT equipment.
10. Provide field level maintenance support for SATCOM equipment.
11. Provide field level maintenance support for intelligence-based systems equipment.
12. Provide field level maintenance support for TMDE.
13. Provide field level maintenance support for cables.
14. Provide field level maintenance support for ground vehicle intercommunication equipment.
15. Provide field level maintenance support for unmanned systems equipment.
16. Provide field level maintenance support for FORCEPRO electronics equipment.
17. Provide field level maintenance support for ground sensor system equipment.
18. Provide field level maintenance support for mechanized vehicle electronics equipment.
19. Provide field level maintenance support for ground radio equipment.
20. Provide field level maintenance support for COMSEC equipment.
21. Provide field level maintenance support for non-standard electronics equipment.
22. Provide field level maintenance support for power supply equipment.
23. Provide field level maintenance support for C2 electronics equipment.
24. Deploy a ground electronics maintenance activity.

REFERENCES:

1. Applicable technical references
2. MCTP 3-40E Maintenance Operations
3. MCTP 8-10B How to Conduct Training
4. MCWP 3-40 Logistics Operations
5. MCWP 4-11 Tactical-Level Logistics
6. SL 1-2/3 Index of Authorized Publications in Stock
7. UM 4400.125 GCSS-MC User Manual

CHAINED EVENTS:

GEM-ADMN-3001	GEM-MAIN-3001	GEM-MAIN-5001
GEM-OPS-6001	GEM-SVC-3001	

GEM-MAIN-6002: Provide Testing & Calibration support

SUPPORTED MET(S): MCT 4.2.2.3

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

DESCRIPTION: This event is for a calibration shop whose primary mission/task is to provide testing and calibration support for multiple equipment types within multiple ground equipment commodities. Doctrinally, a calibrations shop will consist of a maintenance production section, a shipping and receiving section, an administrative section.

CONDITION: Given a mission, personnel, and equipment.

STANDARD: Restoring equipment to a prescribed accuracy of measurement standards in accordance with MCO 4733.1_Marine Corps Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibrations and Maintenance Program (CAMP).

EVENT COMPONENTS: Provide testing and calibration support for Test, Measurement and Diagnostic Equipment.

REFERENCES:

1. Applicable technical references
 2. MCO 4733.1_ Marine Corps Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
 3. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
 4. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
 5. UM 4400.125 GCSS-MC User Manual
-

GEM-OPS-6001: Deploy a ground electronics maintenance activity

SUPPORTED MET(S):

MCT 4.2.2	MCT 4.2.2.1	MCT 4.2.2.2
MCT 4.2.2.4	MCT 4.2.2.5	MCT 4.2.2.8

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

CONDITION: Given a mission, personnel, and equipment.

STANDARD: Ensuring effective ground electronics maintenance support for mission requirements in accordance with MCO 4790.2 FIELD-LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP).

EVENT COMPONENTS:

1. Plan for the deployment of a ground electronics maintenance activity.
2. Prepare organic equipment for embarkation.
3. Supervise the deployment of a ground electronics maintenance activity.

REFERENCES:

1. Applicable technical references
2. MCTP 3-40E Maintenance Operations
3. MCTP 8-10B How to Conduct Training
4. MCWP 3-40 Logistics Operations
5. MCWP 4-11 Tactical-Level Logistics
6. SL 1-2/3 Index of Authorized Publications in Stock
7. UM 4400.125 GCSS-MC User Manual

CHAINED EVENTS:

2805-OPS-2001	28XX-C2-2001	28XX-OPS-2001
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28XX-OPS-2002

GEM-MAIN-5001: Provide field level maintenance support for power supply equipment

SUPPORTED MET(S):

MCT 4.2.2.1	MCT 4.2.2.2	MCT 4.2.2.4
MCT 4.2.2.5	MCT 4.2.2.8	

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

DESCRIPTION: This event is for a maintenance section whose primary focus or additional support requirement is to provide field level maintenance support for power supply equipment.

CONDITION: Given a mission, personnel, and equipment.

STANDARD: Retaining materiel in or restoring it to a specified condition in accordance with MCO 4790.2 FIELD-LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP).

EVENT COMPONENTS:

1. Provide field level maintenance support for power supply equipment
2. Provide field level maintenance support for cables
3. Provide field level maintenance support for C2 electronics equipment
4. Provide field level maintenance support for intelligence-based systems equipment
5. Provide field level maintenance support for unmanned systems equipment
6. Provide field level maintenance support for FORCEPRO electronics equipment
7. Provide field level maintenance support for NS-E electronics items/components
8. Provide field level maintenance support for TWTS equipment
9. Provide field level maintenance support for SATCOM equipment
10. Provide field level maintenance support for ground radio equipment
11. Provide field level maintenance support for intercommunication equipment
12. Provide field level maintenance support for mechanized vehicle electronics equipment
13. Provide field level maintenance support for telecommunications equipment
14. Provide field level maintenance support for internetworking devices
15. Provide field level maintenance support for wireless mesh networking devices
16. Provide field level maintenance support for ground sensor system equipment
17. Provide field level maintenance support for TMDE
18. Provide field level maintenance support for artillery electronics equipment
19. Provide field level maintenance support for complex circuit cards

REFERENCES:

1. Applicable technical references

2. MCTP 3-40E Maintenance Operations
3. MCTP 8-10B How to Conduct Training
4. MCWP 3-40 Logistics Operations
5. MCWP 4-11 Tactical-Level Logistics
6. SL 1-2/3 Index of Authorized Publications in Stock
7. UM 4400.125 GCSS-MC User Manual

CHAINED EVENTS:

28XX-ADMN-2002	28XX-MAIN-1001	28XX-MAIN-1002
28XX-MAIN-1603	28XX-MAIN-2001	28XX-MAIN-2002
28XX-MAIN-2003	28XX-MAIN-2004	28XX-MAIN-2005
28XX-MAIN-2006	28XX-MAIN-2007	28XX-MAIN-2008

GEM-ADMN-3001: Provide maintenance administration support for field level ground electronics maintenance

SUPPORTED MET(S): MCT 4.2.2

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: A maintenance administration (or administrative) section performs functions associated with equipment receipt and transfer, technical data research, tool issue, shop property control, and the recording and reporting of completed maintenance actions within the shop. The name of the section may vary depending upon the shop, and the maintenance administration functions may be dispersed throughout the other elements of the shop. In large maintenance shops there may be several personnel in each element of the section. In small shops one individual may perform some or all of these functions.

CONDITION: Given a mission, personnel, and equipment.

STANDARD: Ensuring availability of maintenance resources in accordance with MCO 4790.2 FIELD-LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP).

EVENT COMPONENTS:

1. Receipt for equipment.
2. Conduct equipment acceptance inspection.
3. Request required repair parts identified during the acceptance inspection.
4. Manage class IX inventory.
5. Store equipment.
6. Issue equipment.
7. Release equipment.
8. Administer publication control program.
9. Manage maintenance shop programs.
10. Administer calibration control program.
11. Administer modification control program.
12. Administer tool control program.
13. Supervise maintenance administration support.

REFERENCES:

1. Applicable technical references

2. MCTP 3-40E Maintenance Operations
3. MCTP 8-10B How to Conduct Training
4. SL 1-2/3 Index of Authorized Publications in Stock

CHAINED EVENTS:

28XX-ADMN-2001	28XX-PROG-2001	28XX-PROG-2002
28XX-PROG-2003	28XX-PROG-2604	28XX-PROG-2605
28XX-PROG-2606	28XX-PROG-2607	

GEM-MAIN-3001: Provide maintenance shop office/operations support for field level ground electronics maintenance

SUPPORTED MET(S): MCT 4.2.2

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: A shop office/operations section manages the overall conduct of maintenance within the shop. The name of the section may vary depending upon the shop, and the shop office/operations functions may be dispersed throughout the other elements of the shop. In small shops, one individual may perform some or all of these functions.

CONDITION: Given a mission, personnel, and equipment.

STANDARD: Managing the overall conduct of maintenance within the shop in accordance with MCO 4790.2 FIELD-LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP).

EVENT COMPONENTS:

1. Develop unit level ground electronics maintenance policy/procedures.
2. Supervise maintenance actions.
3. Manage ground electronics maintenance production.
4. Direct ground electronics maintenance.

REFERENCES:

1. Applicable technical references
2. MCTP 3-40E Maintenance Operations
3. MCWP 3-40 Logistics Operations
4. MCWP 4-11 Tactical-Level Logistics
5. SL 1-2/3 Index of Authorized Publications in Stock

CHAINED EVENTS:

2891-MGMT-2001	28XX-ADMN-2001	28XX-ADMN-2002
28XX-ADMN-2003	28XX-C2-2001	28XX-C2-2002

GEM-SVC-3001: Provide services support for field level ground electronics maintenance

SUPPORTED MET(S): MCT 4.2.2

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: A services section performs functions in support of equipment maintenance; for example, welding, battery shop, inspection, and quality control. The name of the section may vary depending upon the shop, and the services support functions may be dispersed throughout the other elements of the shop. In large maintenance shops there may be several personnel in each element of the section. In small shops one individual may perform some or all of these functions.

CONDITION: Given a mission, personnel, and equipment.

STANDARD: Ensuring availability of functions in support of equipment maintenance in accordance with MCO 4790.2 FIELD-LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP).

EVENT COMPONENTS:

1. Administer quality control program.
2. Perform equipment inspection, as required.
3. Identify requirement for internal/external logistics support programs.
4. Determine equipment eligibility.
5. Supervise preparation of equipment.
6. Monitor equipment in internal/external logistics support programs, as required.
7. Coordinate return of equipment from internal/external logistics support programs, as required.
8. Supervise disposition of internal/external logistics support program usage, as required.

REFERENCES:

1. MCTP 3-40E Maintenance Operations
2. MCTP 8-10B How to Conduct Training
3. MCWP 3-40 Logistics Operations
4. MCWP 4-11 Tactical-Level Logistics

CHAINED EVENTS:

28XX-ADMN-2001

28XX-PROG-2001

GROUND ELECTRONICS MAINTENANCE T&R MANUAL

CHAPTER 4

MOS 28XX COMMON INDIVIDUAL EVENTS

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EVENT CODING.	4001	4-2
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LIST OF INDIVIDUAL EVENTS	4003	4-3

GROUND ELECTRONICS MAINTENANCE T&R MANUAL

CHAPTER 4

MOS 28XX COMMON INDIVIDUAL EVENTS

4000. PURPOSE

4001. EVENT CODING

Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX-XXXX. This chapter utilizes the following methodology.

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

<u>Code</u>	<u>Description</u>
28XX	Ground Electronics Maintenance occupational field

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

<u>Code</u>	<u>Description</u>
ADMN	Maintenance Administration Support
C2	Command and Control
MAIN	Maintenance
OPS	Operations
PROG	Maintenance Programs

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

<u>Code</u>	<u>Description</u>
1000	Core Skills
2000	Core Plus Skills

4002. INDEX OF INDIVIDUAL EVENTS

Event Code	Event	Page
1000 Level Events		
28XX-MAIN-1001	Maintain an electrostatic sensitive device (ESD) safe work area	4-3
28XX-MAIN-1002	Perform repair on power supply equipment	4-4
28XX-MAIN-1003	Troubleshoot internetwork devices	4-5
2000 Level Events		
28XX-ADMN-2001	Supervise maintenance administration support	4-6
28XX-ADMN-2002	Manage ground electronics maintenance production	4-8
28XX-ADMN-2003	Develop unit level ground electronics maintenance policy/procedures	4-9
28XX-ADMN-2004	Advise the commander on ground electronics maintenance issues	4-11

28XX-ADMN-2005	Perform internal/external logistics support	4-12
28XX-C2-2001	Plan for the deployment of a ground electronics maintenance activity	4-12
28XX-C2-2002	Conduct ground electronics maintenance continuous process improvement (CPI)	4-15
28XX-C2-2003	Assist in the development of technical input on ground electronics maintenance solutions	4-15
28XX-MAIN-2001	Perform preventative maintenance checks and services on ground electronics equipment	4-16
28XX-MAIN-2002	Perform modification on ground electronics equipment	4-17
28XX-MAIN-2003	Perform repair on cables	4-18
28XX-MAIN-2004	Perform repair on C2 electronics equipment	4-19
28XX-MAIN-2005	Perform repair on intelligence-based systems equipment	4-20
28XX-MAIN-2006	Perform repair on unmanned systems equipment	4-21
28XX-MAIN-2007	Perform repair on FORCEPRO electronics equipment	4-22
28XX-MAIN-2008	Perform repair on NS-E electronics items/components	4-23
28XX-MAIN-2009	Supervise maintenance actions	4-24
28XX-MAIN-2010	Provide assistance in complex maintenance tasks	4-25
28XX-OPS-2001	Prepare organic equipment for embarkation	4-26
28XX-OPS-2002	Supervise the deployment of a ground electronics maintenance activity	4-27
28XX-PROG-2001	Manage Class IX consumable inventory	4-29
28XX-PROG-2002	Coordinate internal/external logistics support programs	4-30
28XX-PROG-2003	Administer publication control program	4-31
28XX-PROG-2004	Administer tool control program	4-32
28XX-PROG-2005	Administer calibration control program	4-33
28XX-PROG-2006	Administer modification control program	4-34
28XX-PROG-2007	Administer quality control program	4-34

4003. LIST OF INDIVIDUAL EVENTS

28XX-MAIN-1001: Maintain an electrostatic sensitive device (ESD) safe work area

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

MOS PERFORMING: 2831, 2841, 2847, 2862, 2871, 2874, 2887

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, ESD sensitive devices and ESD workstation materials.

STANDARD: Preventing ESD damage to equipment in accordance with TM 9999-15/2, Chapter 5.

PERFORMANCE STEPS:

1. Adhere to safety requirements.

2. Verify earth ground to ESD desktop workstation/ESD field mat.
3. Verify ESD wrist strap connection to ESD desktop workstation/ESD field mat.
4. Ensure all personnel in the work area adhere to ESD safety precautions.

REFERENCES:

1. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
2. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
3. TI 5820-25/22_ Electromagnetic Environmental Effects (E3) Procedures for Installation of Communication Equipment on Marine Corps Platforms
4. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
5. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
6. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
7. TM 9999-15/2_ Electro-static Discharge (ESD) Management

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment: 1. ESD workstation/field mat

28XX-MAIN-1002: Perform repair on power supply equipment

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

MOS PERFORMING: 2831, 2841, 2847, 2862, 2871, 2874, 2887

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Returning equipment to serviceable condition in accordance with applicable technical references.

PERFORMANCE STEPS:

1. Perform acceptance tasks.
2. Determine applicable technical references.
3. Conduct initial inspection.
4. Requisition parts, if required.
5. Perform required maintenance actions.
6. Document maintenance actions.
7. Conduct final inspection.
8. Perform owner notification tasks, if required.

REFERENCES:

1. Applicable technical references
2. DLA DLA Customer Assistance Handbook

3. FEDLOG Federal Logistic Data
 4. FMFRP 4-14 Field Grounding Procedures for Computers and Generators
 5. Maintenance Float Catalog
 6. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
 7. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
 8. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
 9. MCO 4400.150_ Consumer Level Supply Policy
 10. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
 11. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
 12. MCO P5090.2_ Environmental Compliance and Protection Manual
 13. MCO P5215.17_ The Marine Corps Technical Publications System
 14. N6283300014 Navy Electronics and Electricity Training Series (NEETS)
 15. SDS Safety Data Sheets
 16. SL 1-2/3 Index of Authorized Publications in Stock
 17. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
 18. TM 4700-15/1_ Ground Equipment Record Procedures
 19. TM 4700-15/1_ Marine Corps Ground Equipment Record Procedures
 20. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
 21. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
 22. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
 23. TM 9999-15/2_ Electro-static Discharge (ESD) Management
 24. UM 4000-125 Retail Supply and Maintenance Execution Procedures
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28XX-MAIN-1003: Troubleshoot internetwork devices

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

MOS PERFORMING: 2831, 2841, 2847, 2862, 2871, 2874, 2887

GRADES: PVT, PFC, LCPL, CPL, SGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references and equipment.

STANDARD: Ensuring proper configuration of networked devices in order to repair network device fault.

PERFORMANCE STEPS:

1. Identify Open Systems Interconnect (OSI) layer of device fault.
2. Validate device interfaces, as required.
3. Validate proper protocols are set for device, as required.
4. Validate device configuration, as required.
5. Validate device firmware/software versions, as required.
6. Apply corrective actions.
7. Place device back in service, if applicable.
8. Induct device into maintenance, as required.

REFERENCES:

1. Applicable MCSC firmware/software configuration messages
 2. CISCO Certified Network Associate (CCNA) Routing and Switching
 3. CompTIA A+
 4. CompTIA Network +
 5. IT Essentials PC Hardware & Software Companion Guide
 6. DISA Circulars/Publications DISA Circulars/Publications
 7. DoDD 8570.01M Information Assurance Workforce Improvement Program Incorporating Change 2
 8. FMFRP 4-14 Field Grounding Procedures for Computers and Generators
 9. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
 10. MCO 4400.150_ Consumer Level Supply Policy
 11. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
 12. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
 13. MCTP 3-30B.2 (Formerly MCWP 3-40.3) MAGTF Communications System
 14. SL 1-2/3 Index of Authorized Publications in Stock
 15. TM 4700-15/1_ Ground Equipment Record Procedures
 16. TM 9999-15/2_ Electro-static Discharge (ESD) Management
 17. UM 4000-125 Retail Supply and Maintenance Execution Procedures
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28XX-ADMN-2001: Supervise maintenance administration support

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

MOS PERFORMING: 2862, 2874, 2887, 2891

GRADES: SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, equipment, personnel and tools.

STANDARD: Ensuring effectiveness and efficiency of maintenance operations in accordance with MCO 4790.2 FIELD-LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP).

PERFORMANCE STEPS:

1. Determine resource requirements.
2. Analyze capabilities.
3. Enforce maintenance management programs.
4. Report maintenance program performance, as required.

REFERENCES:

1. Applicable technical references
2. CMR Consolidated Memorandum Receipt
3. CNSS 4000 Communication Security (COMSEC) Maintenance and Maintenance Training
4. Contracted Logistics Support (CLS) Statement of Requirements/Objectives/Work (SOR/SOO/SOW)
5. Contracting Officer's Representative (COR) Duties & Responsibilities Guidebook(s)
6. DLA Customer Assistance Handbook
7. DoDI 8523.01 Communication Security

8. DODI 8570.01-M Information Assurance Workforce Improvement Program
9. EKMS-1 (series) EKMS Policy and Procedures for Navy EKMS Tiers 2 & 3
10. EKMS-5E Cryptographic Equipment Information/Guidance Manual
11. FEDLOG Federal Logistic Data
12. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
13. MCO 1553.3_ Unit Training Management (UTM) Program
14. MCO 2281.1_ Electronic Key Management System (EKMS) Policy
15. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
16. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
17. MCO 3500.27_ Operational Risk Management (ORM)
18. MCO 4081.2_ Marine Corps Performance Based Logistics (PBL)
19. MCO 4105.2_ Marine Corps Warranty Program
20. MCO 4200.33_ Contractor Logistics Support (CLS) for Ground Equipment, Weapon Systems, Munitions, and Information Systems
21. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
22. MCO 4400.82_ Regulated/Controlled Item Management Manual
23. MCO 4733.1_ Marine Corps Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
24. MCO 4790.18_ Corrosion Prevention and Control (CPAC) Program
25. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
26. MCO 4855.10_ Product Quality Deficiency Report (PQDR)
27. MCO 5040.6_ Marine Corps Readiness Inspections and Assessments
28. MCO P4400.150_ Consumer Level Supply Policy Manual
29. MCO P4400.151_ Intermediate-Level Supply Management Policy Manual
30. MCO P4400.160_ Field Supply and Maintenance Analysis Office Program (FSMAO)
31. MCO P5215.17_ The Marine Corps Technical Publications System
32. MCTP 13-10C Unit Embarkation Handbook
33. MCTP 3-30B.2 (Formerly MCWP 3-40.3) MAGTF Communications System
34. MCTP 8-10B How to Conduct Training
35. NSTISSI 4000 COMSEC Maintenance and Maintenance Training Policy (NSA)
36. PLMS V3 UG Publication Library Management System Version 3 Users Guide
37. SL 1-2/3 Index of Authorized Publications in Stock
38. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
39. TI 4733 Series Calibration and TMDE Requirements and Programs
40. TI 5820-25/22_ Electromagnetic Environmental Effects (E3) Procedures for Installation of Communication Equipment on Marine Corps Platforms
41. TM 10209-10/1_ Use and Care of Hand Tools and Measuring Tools
42. TM 10510-OD/1_ General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Support Items & Tool Kits)
43. TM 2000-15/1_ Brief Description of U.S. Marine Corps Communication-Electronic Equipment
44. TM 2000-OD/2_ Principal Technical Characteristics of U.S. Marine Corps Communication-Electronics Equipment
45. TM 4700-15/1_ Ground Equipment Record Procedures
46. TM 4795-OR/1_ Organizational Corrosion Prevention and Control Procedures for USMC Ground Combat Equipment
47. TM 5411-14&P/2 Marine Corps Expeditionary Shelter System (MCESS)(Small Shelter Family) 10-Foot Rigid General Purpose Shelter Operation and Maintenance Instructions with Repair Parts List
48. TM 5411-14/1_ Marine Corps Expeditionary Shelter System (MCESS)(Small Shelter Family) Operation and Maintenance Instructions

49. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
 50. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
 51. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
 52. TM 9999-15/2_ Electro-static Discharge (ESD) Management
 53. UM 4000-125 Retail Supply and Maintenance Execution Procedures
 54. UM 4400-60 Materiel Returns Program
 55. UM PLMS User's Manual, Publication Library Management System
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28XX-ADMN-2002: Manage ground electronics maintenance production

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Maintenance leaders manage maintenance production at varying levels, ranging from section heads that manage maintenance production for specific equipment types up to shop officers and shop chiefs that manage maintenance production for all equipment types. Regardless of the scope and scale of maintenance production being managed, the same basic process is utilized.

MOS PERFORMING: 2802, 2805, 2862, 2874, 2887, 2891

GRADES: SGT, SSGT, GYSGT, MSGT, MGYSGT, WO-1, CWO-2, CWO-3, CWO-4, CAPT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, a mission and Commander's guidance, a ground electronic maintenance unit, and an assigned maintenance area.

STANDARD: Ensuring the efficient and effective performance of maintenance functions in accordance with MCO 4790.2 FIELD-LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP).

PERFORMANCE STEPS:

1. Analyze maintenance phase productivity.
2. Analyze workload.
3. Determine maintenance capacity.
4. Determine maintenance resource requirements.
5. Establish maintenance priorities.
6. Allocate maintenance resources.
7. Monitor maintenance cycle times and workflow.
8. Manage maintenance reporting.

REFERENCES:

1. Applicable technical references
2. Contracted Logistics Support (CLS) Statement of Requirements/Objectives/Work (SOR/SOO/SOW)
3. Contracting Officer's Representative (COR) Duties & Responsibilities Guidebook(s)
4. DLA Customer Assistance Handbook
5. DoDI 4151.18 Maintenance of Military Material
6. EKMS-1 (series) EKMS Policy and Procedures for Navy EKMS Tiers 2 & 3

7. EKMS-5E Cryptographic Equipment Information/Guidance Manual
8. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
9. MCO 1200.17_ Military Occupational Specialty Manual (MOS Manual)
10. MCO 2281.1_ Electronic Key Management System (EKMS) Policy
11. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
12. MCO 4105.2_ Marine Corps Warranty Program
13. MCO 4400.150_ Consumer Level Supply Policy
14. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
15. MCO 4400.82_ Regulated/Controlled Item Management Manual
16. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
17. MCO 4855.10_ Product Quality Deficiency Report (PQDR)
18. MCO P4400.150_ Consumer Level Supply Policy Manual
19. MCO P4400.151_ Intermediate-Level Supply Management Policy Manual
20. MCO P5090.2_ Environmental Compliance and Protection Manual
21. MMSOP Maintenance Management Standard Operating Procedures
22. NSTISSI 4000 COMSEC Maintenance and Maintenance Training Policy (NSA)
23. OpOrd Operational Order
24. SL 1-2/3 Index of Authorized Publications in Stock
25. T/O&E Table of Organization and Equipment
26. TM 10209-10/1_ Use and Care of Hand Tools and Measuring Tools
27. TM 4700-15/1_ Ground Equipment Record Procedures
28. UM 4400-125 FMF SASSY Accounting Manual (VOL IV) Maintenance Float Procedures
29. Unit SOP Unit's Standing Operating Procedures

28XX-ADMN-2003: Develop unit level ground electronics maintenance policy/procedures

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

MOS PERFORMING: 2802, 2805, 2874, 2891

GRADES: MSGT, MGYSGT, WO-1, CWO-2, CWO-3, CWO-4, CWO-5, CAPT, MAJ, LTCOL

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, commander's guidance, directives from higher headquarters, a mission and a table of organization/equipment.

STANDARD: Ensuring sufficient detail so that each subordinate unit can perform its maintenance mission in accordance with MCO 4790.2 FIELD-LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP).

PERFORMANCE STEPS:

1. Analyze mission, directives, policy guidance and references.
2. Determine Commander's additional policy guidance.
3. Determine procedures requiring deviation from existing policy.
4. Determine policies requiring amplification.
5. Indicate rationale why current directives are inadequate or inappropriate.
6. Staff procedures/policy letters for review.

REFERENCES :

1. Applicable technical references
2. Contracted Logistics Support (CLS) Statement of Requirements/Objectives/Work (SOR/SOO/SOW)
3. DoDI 8523.01 Communication Security
4. EKMS-1 (series) EKMS Policy and Procedures for Navy EKMS Tiers 2 & 3
5. EKMS-5E Cryptographic Equipment Information/Guidance Manual
6. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
7. MCO 1200.17_ Military Occupational Specialty Manual (MOS Manual)
8. MCO 2281.1_ Electronic Key Management System (EKMS) Policy
9. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
10. MCO 4105.2_ Marine Corps Warranty Program
11. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
12. MCO 4400.82_ Regulated/Controlled Item Management Manual
13. MCO 4733.1_ Marine Corps Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
14. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
15. MCO 4855.10_ Product Quality Deficiency Report (PQDR)
16. MCO 5040.6_ Marine Corps Readiness Inspections and Assessments
17. MCO 5311.1_ Total Force Structure Process (TFSP)
18. MCO P4400.150_ Consumer Level Supply Policy Manual
19. MCO P4400.151_ Intermediate-Level Supply Management Policy Manual
20. MCO P4400.160_ Field Supply and Maintenance Analysis Office Program (FSMAO)
21. MCO P5215.17_ The Marine Corps Technical Publications System
22. MCO P7100.8_ Field Budget Guidance Manual
23. MCTP 13-10C Unit Embarkation Handbook
24. MCTP 3-30B.2 (Formerly MCWP 3-40.3) MAGTF Communications System
25. MMSOP Maintenance Management Standard Operating Procedures
26. NSTISSI 4000 COMSEC Maintenance and Maintenance Training Policy (NSA)
27. SL 1-2/3 Index of Authorized Publications in Stock
28. TI 4733-15/7_ Procedural Publication Index for Marine Corps Test, Measurement, and Diagnostic Equipment Calibration and Maintenance Program
29. TI 4733-35/5_ Calibration Equipment Recommendations for the Marine Corps Calibration Program
30. TI 4733-ID/8_ Marine Corps Transfer Standards Program
31. TI 4733-OD/1_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
32. TI 4733-OD/10_ Special Calibration of Torque Tools
33. TI 4733-OD/11_ Infantry Weapons Gage Calibration Program (IWGCP)
34. TI 4733-OD/21_ Survey Instrument Calibration Program (SICP)
35. TI 5820-25/22_ Electromagnetic Environmental Effects (E3) Procedures for Installation of Communication Equipment on Marine Corps Platforms
36. TI-4733-35/23_ Navy and Marine Corps Calibration Laboratory Audit/Certification Manual
37. TM 10209-10/1_ Use and Care of Hand Tools and Measuring Tools
38. TM 10510-OD/1_ General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Support Items & Tool Kits)
39. TM 4700-15/1_ Ground Equipment Record Procedures
40. TM 4795-OR/1_ Organizational Corrosion Prevention and Control Procedures for USMC Ground Combat Equipment

41. TM 5411-14&P/2 Marine Corps Expeditionary Shelter System (MCESS)(Small Shelter Family) 10-Foot Rigid General Purpose Shelter Operation and Maintenance Instructions with Repair Parts List
 42. TM 5411-14/1_ Marine Corps Expeditionary Shelter System (MCESS)(Small Shelter Family) Operation and Maintenance Instructions
 43. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
 44. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
 45. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
 46. TM 9999-15/2_ Electro-static Discharge (ESD) Management
 47. UM 4000-125 Retail Supply and Maintenance Execution Procedures
 48. UM 4400-123 FMF SASSY Management Unit Procedures
 49. UM 4400-124 FMF SASSY Using Unit Procedures
 50. UM 4400-60 Materiel Returns Program
 51. UM 4790-5 MIMMS-AIS Field Maintenance Procedures
 52. UM PLMS User's Manual, Publication Library Management System
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28XX-ADMN-2004: Advise the commander on ground electronics maintenance issues

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

MOS PERFORMING: 2802, 2805, 2862, 2874, 2891

GRADES: SSGT, GYSGT, MSGT, MGYSGT, WO-1, CWO-2, CWO-3, CWO-4, CWO-5, CAPT, MAJ, LTCOL

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, commander's guidance, and maintenance reports.

STANDARD: Providing an accurate assessment of the unit's ability to perform its assigned mission in accordance with MCO 4790.2 FIELD-LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP).

PERFORMANCE STEPS:

1. Review Commander's guidance.
2. Review MARES management reports.
3. Identify equipment excesses and deficiencies.
4. Analyze maintenance trends.
5. Analyze supply support.
6. Evaluate overall equipment readiness posture.
7. Provide maintenance/supply ratings.
8. Provide recommendations.

REFERENCES:

1. DLA Customer Assistance Handbook
2. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
3. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy

4. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
 5. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
 6. MCTP 3-30B.2 (Formerly MCWP 3-40.3) MAGTF Communications System
 7. T/O&E Table of Organization and Equipment
 8. TM 4700-15/1_ Ground Equipment Record Procedures
 9. UM 4000-125 Retail Supply and Maintenance Execution Procedures
 10. UM 4400-124 FMF SASSY Using Unit Procedures
 11. Unit SOP Unit's Standing Operating Procedures
 12. Web Tools Web Based Maintenance Management Applications
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28XX-ADMN-2005: Perform internal/external logistics support

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

MOS PERFORMING: 2831, 2841, 2847, 2848, 2862, 2871, 2874, 2887

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a shipping and receiving facility, materials, equipment, and access to computer equipment and appropriate AIS

STANDARD: To ensure 100% accountability of all equipment received and shipped for maintenance support.

PERFORMANCE STEPS:

1. Receipt for equipment into maintenance.
2. Issue equipment to maintenance section.
3. Receipt for equipment requiring shipment.
4. Ship equipment, as required.
5. Reconcile shipments pending return.
6. Receipt for returned equipment.
7. Perform disposition actions as necessary.

REFERENCES:

1. Applicable Unit Policies and Procedures Applicable Unit Policies and Procedures
2. EKMS-1 (series) EKMS Policy and Procedures for Navy EKMS Tiers 2 & 3
3. EKMS-5E Cryptographic Equipment Information/Guidance Manual
4. MAINT FLOAT CATALOG Maintenance Float Catalog
5. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
6. MCO 4000.57_ Marine Corps Total Life Cycle Management (TLCM) of Ground Weapons Equipment and Material
7. MCO 4200.33_ Contractor Logistics Support (CLS) for Ground Equipment, Weapon Systems, Munitions, and Information Systems
8. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
9. MCO 4400.82_ Regulated/Controlled Item Management Manual
10. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
11. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)

12. MMSOP Maintenance Management Standard Operating Procedures
 13. NAVSEA SWO20-AC-SAF-010 Transportation and Storage Data for Ammunition, Explosives and Related Hazardous Materials
 14. TM 4700-15/1_ Ground Equipment Record Procedures
 15. UM 4400-60 Materiel Returns Program
 16. Unit Standard Operating Procedures (SOP)
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28XX-C2-2001: Plan for the deployment of a ground electronics maintenance activity

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

MOS PERFORMING: 2802, 2805, 2862, 2874, 2891

GRADES: SSGT, GYSGT, MSGT, MGYSGT, WO-1, CWO-2, CWO-3, CWO-4, CWO-5, CAPT, MAJ, LTCOL

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission, personnel, and equipment.

STANDARD: Providing task-organized maintenance and meeting the mission requirement in support of operations in accordance with MCO 4790.2 FIELD-LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP).

PERFORMANCE STEPS:

1. Review mission requirements.
2. Identify supported unit requirements.
3. Identify supporting unit requirements.
4. Determine personnel requirements.
5. Determine equipment requirements.
6. Identify supply support requirements.
7. Identify shortfalls.
8. Submit embarkation requirements.
9. Identify power requirements.
10. Provide input for transportation load plans.
11. Arrange for special material handling and transportation of equipment, as required.
12. Determine site layout.
13. Submit plan.

REFERENCES:

1. CAL and LUBF Consolidated Account Listing and Loaded Unit Balance File
2. CMR Consolidated Memorandum Receipt
3. Contracted Logistics Support (CLS) Statement of Requirements/Objectives/Work (SOR/SOO/SOW)
4. Contracting Officer's Representative (COR) Duties & Responsibilities Guidebook(s)
5. DoDD 8500.1 Cybersecurity
6. DoDI 4151.18 Maintenance of Military Material
7. DoDI 8523.01 Communication Security
8. DODI 8570.01-M Information Assurance Workforce Improvement Program
9. EKMS-1 (series) EKMS Policy and Procedures for Navy EKMS Tiers 2 & 3

10. EKMS-5E Cryptographic Equipment Information/Guidance Manual
11. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
12. MCCLL Marine Corps Center for Lessons Learned web site
<http://www.mccll.usmc.mil>
13. MCO 1200.17_ Military Occupational Specialty Manual (MOS Manual)
14. MCO 2281.1_ Electronic Key Management System (EKMS) Policy
15. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
16. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
17. MCO 3000.18_ Marine Corps Force Deployment Planning and Execution (FDP&E) Manual
18. MCO 3500.27_ Operational Risk Management (ORM)
19. MCO 3504.1_ Marine Corps Lessons Learned Program (MCCLP) and the Marine Corps Center for Lessons Learned (MCCLL)
20. MCO 4081.2_ Marine Corps Performance Based Logistics (PBL)
21. MCO 4105.2_ Marine Corps Warranty Program
22. MCO 4200.33_ Contractor Logistics Support (CLS) for Ground Equipment, Weapon Systems, Munitions, and Information Systems
23. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
24. MCO 4400.82_ Regulated/Controlled Item Management Manual
25. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
26. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
27. MCO 4790.8 Repair of Micro-Miniature Electronic Circuits - (obsolete MCO or incorrect Pub ID)
28. MCO 4855.10_ Product Quality Deficiency Report (PQDR)
29. MCO 5311.1_ Total Force Structure Process (TFSP)
30. MCO P4400.150_ Consumer Level Supply Policy Manual
31. MCO P4400.151_ Intermediate-Level Supply Management Policy Manual
32. MCO P5215.17_ The Marine Corps Technical Publications System
33. MCO P7100.8_ Field Budget Guidance Manual
34. MCTP 13-10C Unit Embarkation Handbook
35. MCTP 3-30B.2 (Formerly MCWP 3-40.3) MAGTF Communications System
36. MCTP 3-40B Tactical-Level Logistics
37. MMSOP Maintenance Management Standard Operating Procedures
38. MPS Load Plan
39. NSTISSI 4000 COMSEC Maintenance and Maintenance Training Policy (NSA)
40. OPNAVINST 2221.3_ Communications Security (COMSEC) Maintenance and Maintenance Training
41. OpOrd Operational Order
42. SECNAVINST 5510.36_ Department of the Navy Information and Personnel Security Program Regulations
43. SL 1-2/3 Index of Authorized Publications in Stock
44. T/O&E Table of Organization and Equipment
45. TI 4733 Series Calibration and TMDE Requirements and Programs
46. TI 5820-25/22_ Electromagnetic Environmental Effects (E3) Procedures for Installation of Communication Equipment on Marine Corps Platforms
47. TM 10510-OD/1_ General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Support Items & Tool Kits)
48. TM 2000-15/1_ Brief Description of U.S. Marine Corps Communication-Electronic Equipment
49. TM 2000-OD/2_ Principal Technical Characteristics of U.S. Marine Corps Communication-Electronics Equipment
50. TM 4700-15/1_ Ground Equipment Record Procedures
51. TM 5410-14/1_ Intermediate Maintenance Instructions, Electronics Maintenance Complex

52. TM 5411-14&P/2 Marine Corps Expeditionary Shelter System (MCESS)(Small Shelter Family) 10-Foot Rigid General Purpose Shelter Operation and Maintenance Instructions with Repair Parts List
 53. TM 5411-14/1_ Marine Corps Expeditionary Shelter System (MCESS)(Small Shelter Family) Operation and Maintenance Instructions
 54. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
 55. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
 56. UM 4000-125 Retail Supply and Maintenance Execution Procedures
 57. UM 4400-60 Materiel Returns Program
 58. Unit SOP Unit's Standing Operating Procedures
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28XX-C2-2002: Conduct ground electronics maintenance continuous process improvement (CPI)

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

MOS PERFORMING: 2802, 2805, 2874, 2891

GRADES: MSGT, MGYSGT, WO-1, CWO-2, CWO-3, CWO-4, CWO-5, CAPT, MAJ, LTCOL

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission, personnel, and equipment.

STANDARD: Ensuring maintenance and maintenance management processes are in compliance with UM 4000-125 GCSS-MC User's Manual.

PERFORMANCE STEPS:

1. Evaluate ground electronics maintenance processes.
2. Identify process deficiencies/inefficiencies.
3. Develop process improvements.
4. Implement process improvements.

REFERENCES:

1. Applicable technical references
 2. CMR Consolidated Memorandum Receipt
 3. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
 4. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
 5. MCO 5311.1_ Total Force Structure Process (TFSP)
 6. MCO P4400.150_ Consumer Level Supply Policy Manual
 7. MCWP 3-40 Logistics Operations
 8. MCWP 4-11 Tactical-Level Logistics
 9. SL 1-2/3 Index of Authorized Publications in Stock
 10. T/O&E Table of Organization and Equipment
 11. UM 4000-125 Retail Supply and Maintenance Execution Procedures
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28XX-C2-2003: Assist in the development of technical input on ground electronics maintenance solutions

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Senior ground electronics maintenance Marines are called upon to provide subject matter expertise in identifying, validating, and evaluating requirements for manning, training, and equipping the force; providing estimates of supportability and life cycle management courses of action for equipment under development/fielding; and assessing enterprise-level training and education requirements in support of ground electronics maintenance operations.

MOS PERFORMING: 2802, 2805, 2874, 2891

GRADES: MSGT, MGYSGT, WO-1, CWO-2, CWO-3, CWO-4, CWO-5, CAPT, MAJ, LTCOL

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a requirement.

STANDARD: Providing analysis of capability gaps and excesses, and identifying possible solutions and solution strategies, in accordance with MCO 3900.15_ Marine Corps Expeditionary Force Development System (EFDS).

PERFORMANCE STEPS:

1. Assess doctrinal/policy impacts/supportability.
2. Assess organizational impacts/supportability.
3. Assess training/education impacts/supportability.
4. Assess materiel impacts/supportability.
5. Assess leadership impacts/supportability.
6. Assess personnel impacts/supportability.
7. Assess facilities impacts/supportability.
8. Assess cost impacts/supportability.
9. Develop course of action recommendation.
10. Submit course of action recommendation.

REFERENCES:

1. Applicable technical references
2. CJCSI 3170.01_ Joint Capabilities Integration and Development System (JCIDS)
3. CMR Consolidated Memorandum Receipt
4. JCIDS Manual Operation of the Joint Capabilities Integration and Development System
5. MCO 1200.17_ Military Occupational Specialty Manual (MOS Manual)
6. MCO 1553.1_ The Marine Corps Training and Education System
7. MCO 3900.15_ Marine Corps Expeditionary Force Development System (EFDS)
8. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
9. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
10. MCO 5311.1_ Total Force Structure Process (TFSP)
11. MCO P3500.72_ Marine Corps Ground Training and Readiness (T&R) Program
12. MCO P4400.150_ Consumer Level Supply Policy Manual
13. MCWP 3-40 Logistics Operations
14. MCWP 4-11 Tactical-Level Logistics
15. NAVMC 3500.6_ Ground Electronics Maintenance T&R Manual
16. SL 1-2/3 Index of Authorized Publications in Stock
17. T/O&E Table of Organization and Equipment

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

28XX-MAIN-2001: Perform preventative maintenance checks and services on ground electronics equipment

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

MOS PERFORMING: 2831, 2841, 2847, 2862, 2871, 2874, 2887

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Adjusting equipment to achieve precise functioning in accordance with applicable technical references.

PERFORMANCE STEPS:

1. Perform acceptance tasks.
2. Determine applicable technical references.
3. Conduct initial inspection.
4. Adjust equipment performance.
5. Document maintenance actions.
6. Perform final inspection tasks.
7. Perform owner notification tasks, if required.

REFERENCES:

1. RIP Consolidated Asset List
2. Applicable technical references
3. DLA Customer Assistance Handbook
4. EKMS-5E Cryptographic Equipment Information/Guidance Manual
5. FEDLOG Federal Logistic Data
6. Maintenance Float Catalog
7. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
8. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
9. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
10. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
11. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
12. MCO P5215.17_ The Marine Corps Technical Publications System
13. N6283300014 Navy Electronics and Electricity Training Series (NEETS)
14. SDS Safety Data Sheets
15. SL 1-2/3 Index of Authorized Publications in Stock
16. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
17. TM 4700-15/1_ Ground Equipment Record Procedures
18. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
19. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
20. TM 9999-15/2_ Electro-static Discharge (ESD) Management

21. UM 4400-124 FMF SASSY Using Unit Procedures

28XX-MAIN-2002: Perform modification on ground electronics equipment

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

MOS PERFORMING: 2831, 2841, 2847, 2862, 2871, 2874, 2887

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Improving equipment functioning, maintainability, reliability, or safety characteristics in accordance with applicable technical references.

PERFORMANCE STEPS:

1. Perform acceptance tasks.
2. Determine applicable technical references.
3. Conduct initial inspection.
4. Requisition parts, as required.
5. Apply modification (MI/TI/software/firmware upgrade).
6. Document modification.
7. Perform final inspection tasks.
8. Perform owner notification tasks, if required.

REFERENCES:

1. Applicable technical references
2. DLA Customer Assistance Handbook
3. DOD-STD-1686 Electrostatic Discharge Control
4. FEDLOG Federal Logistic Data
5. FMFRP 4-14 Field Grounding Procedures for Computers and Generators
6. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
7. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
8. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
9. MCO 4400.150_ Consumer Level Supply Policy
10. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
11. MCO P5090.2_ Environmental Compliance and Protection Manual
12. MCO P5215.17_ The Marine Corps Technical Publications System
13. N6283300014 Navy Electronics and Electricity Training Series (NEETS)
14. SDS Safety Data Sheets
15. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
16. TM 4700-15/1_ Ground Equipment Record Procedures
17. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
18. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
19. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
20. TM 9999-15/2_ Electro-static Discharge (ESD) Management

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

28XX-MAIN-2003: Perform repair on cables

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

MOS PERFORMING: 2831, 2841, 2847, 2862, 2871, 2874, 2887

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Returning equipment to serviceable condition in accordance with applicable technical references.

PERFORMANCE STEPS:

1. Perform acceptance tasks.
2. Determine applicable technical references.
3. Conduct initial inspection.
4. Requisition parts, if required.
5. Perform required maintenance actions.
6. Document maintenance actions.
7. Perform final inspection tasks.
8. Perform owner notification tasks, if required.

REFERENCES:

1. Applicable technical references
2. DLA Customer Assistance Handbook
3. FEDLOG Federal Logistic Data
4. FMFRP 4-14 Field Grounding Procedures for Computers and Generators
5. JP 3-0
6. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
7. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
8. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
9. MCO 4400.150_ Consumer Level Supply Policy
10. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
11. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
12. MCO P5090.2_ Environmental Compliance and Protection Manual
13. MCO P5215.17_ The Marine Corps Technical Publications System
14. N6283300014 Navy Electronics and Electricity Training Series (NEETS)
15. SDS Safety Data Sheets
16. SL 1-2/3 Index of Authorized Publications in Stock
17. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
18. TM 4700-15/1_ Ground Equipment Record Procedures
19. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
20. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness

21. TM 9999-15/2_ Electro-static Discharge (ESD) Management
 22. UM 4000-125 Retail Supply and Maintenance Execution Procedures
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28XX-MAIN-2004: Perform repair on C2 electronics equipment

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

MOS PERFORMING: 2831, 2841, 2847, 2862, 2887

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Returning equipment to serviceable condition in accordance with applicable technical references.

PERFORMANCE STEPS:

1. Perform acceptance tasks.
2. Determine applicable technical references.
3. Conduct initial inspection.
4. Requisition parts, if required.
5. Perform required maintenance actions.
6. Document maintenance actions.
7. Perform final inspection tasks.
8. Perform owner notification tasks, if required.

REFERENCES:

1. Applicable technical references
2. DLA Customer Assistance Handbook
3. FEDLOG Federal Logistic Data
4. FMFRP 4-14 Field Grounding Procedures for Computers and Generators
5. Maintenance Float Catalog
6. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
7. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
8. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
9. MCO 4400.150_ Consumer Level Supply Policy
10. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
11. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
12. MCO P5090.2_ Environmental Compliance and Protection Manual
13. MCO P5215.17_ The Marine Corps Technical Publications System
14. N6283300014 Navy Electronics and Electricity Training Series (NEETS)
15. SDS Safety Data Sheets
16. SL 1-2/3 Index of Authorized Publications in Stock
17. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
18. TM 4700-15/1_ Ground Equipment Record Procedures
19. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level

20. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
 21. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
 22. TM 9999-15/2_ Electro-static Discharge (ESD) Management
 23. UM 4000-125 Retail Supply and Maintenance Execution Procedures
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28XX-MAIN-2005: Perform repair on intelligence-based systems equipment

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

MOS PERFORMING: 2841, 2847, 2862

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Returning equipment to serviceable condition in accordance with applicable technical references.

PERFORMANCE STEPS:

1. Perform acceptance tasks.
2. Determine applicable technical references.
3. Conduct initial inspection.
4. Requisition parts, if required.
5. Perform required maintenance actions.
6. Document maintenance actions.
7. Perform final inspection tasks.
8. Perform owner notification tasks, if required.

REFERENCES:

1. Applicable technical references
2. DLA Customer Assistance Handbook
3. FEDLOG Federal Logistic Data
4. FMFRP 4-14 Field Grounding Procedures for Computers and Generators
5. Maintenance Float Catalog
6. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
7. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
8. MCO 4400.150_ Consumer Level Supply Policy
9. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
10. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
11. MCO P5090.2_ Environmental Compliance and Protection Manual
12. MCO P5215.17_ The Marine Corps Technical Publications System
13. N6283300014 Navy Electronics and Electricity Training Series (NEETS)
14. SDS Safety Data Sheets
15. SL 1-2/3 Index of Authorized Publications in Stock
16. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
17. TM 4700-15/1_ Ground Equipment Record Procedures

18. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
 19. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
 20. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
 21. TM 9999-15/2_ Electro-static Discharge (ESD) Management
 22. UM 4000-125 Retail Supply and Maintenance Execution Procedures
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28XX-MAIN-2006: Perform repair on unmanned systems equipment

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

MOS PERFORMING: 2831, 2841, 2847, 2862, 2887

GRADES: PVT, PFC, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Returning equipment to serviceable condition in accordance with applicable technical references.

PERFORMANCE STEPS:

1. Perform acceptance tasks.
2. Determine applicable technical references.
3. Conduct initial inspection.
4. Requisition parts, if required.
5. Perform required maintenance actions.
6. Document maintenance actions.
7. Perform final inspection tasks.
8. Perform owner notification tasks, if required.

REFERENCES:

1. Applicable technical references
2. DLA Customer Assistance Handbook
3. FEDLOG Federal Logistic Data
4. FMFRP 4-14 Field Grounding Procedures for Computers and Generators
5. Maintenance Float Catalog
6. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
7. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
8. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
9. MCO 4400.150_ Consumer Level Supply Policy
10. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
11. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
12. MCO P5090.2_ Environmental Compliance and Protection Manual
13. MCO P5215.17_ The Marine Corps Technical Publications System
14. N6283300014 Navy Electronics and Electricity Training Series (NEETS)
15. SDS Safety Data Sheets
16. SL 1-2/3 Index of Authorized Publications in Stock

17. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
 18. TM 4700-15/1_ Ground Equipment Record Procedures
 19. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
 20. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
 21. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
 22. TM 9999-15/2_ Electro-static Discharge (ESD) Management
 23. UM 4000-125 Retail Supply and Maintenance Execution Procedures
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28XX-MAIN-2007: Perform repair on FORCEPRO electronics equipment

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

MOS PERFORMING: 2831, 2841, 2847, 2862, 2887

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Returning equipment to serviceable condition in accordance with applicable technical references.

PERFORMANCE STEPS:

1. Perform acceptance tasks.
2. Determine applicable technical references.
3. Conduct initial inspection.
4. Requisition parts, if required.
5. Perform required maintenance actions.
6. Document maintenance actions.
7. Perform final inspection tasks.
8. Perform owner notification tasks, if required.

REFERENCES:

1. Applicable technical references
2. DLA Customer Assistance Handbook
3. FEDLOG Federal Logistic Data
4. FMFRP 4-14 Field Grounding Procedures for Computers and Generators
5. Maintenance Float Catalog
6. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
7. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
8. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
9. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
10. MCO P5090.2_ Environmental Compliance and Protection Manual
11. MCO P5215.17_ The Marine Corps Technical Publications System
12. N6283300014 Navy Electronics and Electricity Training Series (NEETS)
13. SDS Safety Data Sheets

14. SL 1-2/3 Index of Authorized Publications in Stock
 15. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
 16. TM 4700-15/1_ Ground Equipment Record Procedures
 17. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
 18. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
 19. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
 20. TM 9999-15/2_ Electro-static Discharge (ESD) Management
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28XX-MAIN-2008: Perform repair on NS-E electronics items/components

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

MOS PERFORMING: 2831, 2841, 2847, 2862, 2871, 2874, 2887

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Returning equipment to serviceable condition in accordance with applicable technical references.

PERFORMANCE STEPS:

1. Perform acceptance tasks.
2. Determine applicable technical references.
3. Conduct initial inspection.
4. Requisition parts, if required.
5. Perform required maintenance actions.
6. Document maintenance actions.
7. Perform final inspection tasks.
8. Perform owner notification tasks, if required.

REFERENCES:

1. Applicable technical references
2. DLA Customer Assistance Handbook
3. FEDLOG Federal Logistic Data
4. FMFRP 4-14 Field Grounding Procedures for Computers and Generators
5. Maintenance Float Catalog
6. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
7. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
8. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
9. MCO 4400.150_ Consumer Level Supply Policy
10. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
11. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
12. MCO P5090.2_ Environmental Compliance and Protection Manual
13. MCO P5215.17_ The Marine Corps Technical Publications System

14. N6283300014 Navy Electronics and Electricity Training Series (NEETS)
 15. SDS Safety Data Sheets
 16. SL 1-2/3 Index of Authorized Publications in Stock
 17. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
 18. TM 4700-15/1_ Ground Equipment Record Procedures
 19. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
 20. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
 21. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
 22. TM 9999-15/2_ Electro-static Discharge (ESD) Management
 23. UM 4000-125 Retail Supply and Maintenance Execution Procedures
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28XX-MAIN-2009: Supervise maintenance actions

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

MOS PERFORMING: 2862, 2874, 2887

GRADES: SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, equipment and maintenance personnel.

STANDARD: Ensuring that proper maintenance actions are performed in accordance with applicable technical references.

PERFORMANCE STEPS:

1. Determine applicable technical references, as required.
2. Supervise ground electronics maintenance personnel.
3. Evaluate ground electronics maintenance personnel.
4. Identify ground electronics maintenance personnel training deficiencies, as required.
5. Manage maintenance resources.
6. Analyze maintenance reporting data.
7. Maintain reports and records.
8. Document maintenance actions, as required.
9. Requisition parts, as required.
10. Reconcile part requisition status and determine appropriate course of action.

REFERENCES:

1. Applicable technical references
2. DLA Customer Assistance Handbook
3. DoDI 4151.18 Maintenance of Military Material
4. FEDLOG Federal Logistic Data
5. Maintenance Float Catalog
6. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
7. MCO 1200.17_ Military Occupational Specialty Manual (MOS Manual)
8. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy

9. MCO 4105.2_ Marine Corps Warranty Program
 10. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
 11. MCO 4400.160 Field Supply and Maintenance Analysis Office (FSMAO) Program
 12. MCO P4400.150_ Consumer Level Supply Policy Manual
 13. MCO P5215.17_ The Marine Corps Technical Publications System
 14. MMSOP Maintenance Management Standard Operating Procedures
 15. N6283300014 Navy Electronics and Electricity Training Series (NEETS)
 16. SDS Safety Data Sheets
 17. SL 1-2/3 Index of Authorized Publications in Stock
 18. TM 4700-15/1_ Ground Equipment Record Procedures
 19. UM 4400-124 FMF SASSY Using Unit Procedures
 20. UM 4790-5 MIMMS-AIS Field Maintenance Procedures
 21. Unit SOP Unit's Standing Operating Procedures
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28XX-MAIN-2010: Provide assistance in complex maintenance tasks

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

DESCRIPTION: Mid-level and senior level maintenance leaders combine experience and advanced training in resolving complex maintenance tasks that are beyond the abilities of entry-level ground electronics maintainers.

MOS PERFORMING: 2862, 2874, 2887, 2891

GRADES: SGT, SSGT, GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission, personnel, and equipment.

STANDARD: Performing required maintenance actions in accordance with applicable technical references.

PERFORMANCE STEPS:

1. Identify maintenance task requirements.
2. Design the maintenance program solution.
3. Coordinate external support, as required.
4. Implement maintenance procedures, as required.
5. Supervise maintenance actions, as required.

REFERENCES:

1. Applicable technical references
 2. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
 3. N6283300014 Navy Electronics and Electricity Training Series (NEETS)
 4. SL 1-2/3 Index of Authorized Publications in Stock
 5. UM 4000-125 Retail Supply and Maintenance Execution Procedures
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28XX-OPS-2001: Prepare organic equipment for embarkation

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

MOS PERFORMING: 2831, 2841, 2847, 2862, 2871, 2874, 2887

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, equipment, a mission and personnel.

STANDARD: Maintaining the units' ability to rapidly deploy in accordance with MCRP 4-11.3G.

PERFORMANCE STEPS:

1. Ensure SL-3 completeness of maintenance/maintenance support equipment.
2. Determine requirements for embarkation materials.
3. Ensure completion of tactical marking of maintenance/maintenance support equipment.
4. Prepare embarkation documents (packing and embark lists, EDL, etc.).
5. Ensure completion of weather/waterproofing of maintenance/maintenance support equipment.
6. Determine special lifting/handling requirements for maintenance/maintenance support equipment.
7. Determine special security requirements for maintenance/maintenance support equipment and COMSEC materials.

REFERENCES:

1. Applicable technical references
2. CMR Consolidated Memorandum Receipt
3. MCO 4000.51_ Automatic Identification Technology (AIT)
4. MCO 4631.10_ Operational Support Airlift Management
5. MCO P4030.19_ Preparing Hazardous Materials for Military Air Shipments
6. MCTP 13-10C Unit Embarkation Handbook
7. MMSOP Maintenance Management Standard Operating Procedures
8. MPS Load Plan
9. SL 1-2/3 Index of Authorized Publications in Stock
10. T/O&E Table of Organization and Equipment
11. Unit SOP Unit's Standing Operating Procedures

SUPPORT REQUIREMENTS:

MATERIAL:

Distance Learning Products Available:

1. MarineNet Course Code: MCIZ045DZZ, The Logistics/Embarkation Specialist
2. MarineNet Course Code: MCIZ0430ZZ, Amphibious Embarkation

28XX-OPS-2002: Supervise the deployment of a ground electronics maintenance activity

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

MOS PERFORMING: 2802, 2805, 2862, 2874, 2887, 2891

GRADES: SGT, SSGT, GYSGT, MSGT, MGYSGT, WO-1, CWO-2, CWO-3, CWO-4, CAPT, MAJ

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, equipment, a mission and personnel.

STANDARD: Fulfilling mission requirements, ensuring safety of personnel, and in accordance with MCO 4790.2 FIELD-LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP).

PERFORMANCE STEPS:

1. Conduct pre-deployment inspection of personnel and equipment.
2. Verify execution of load plans.
3. Verify special material handling and transportation.
4. Verify availability of logistics support items.
5. Verify repair parts and equipment requirements are met.
6. Provide recommendations on site selection.
7. Provide recommendations on organization of maintenance area.
8. Provide recommendations on organization for maintenance.
9. Provide recommendations on shop layout.
10. Adjust plan, as required.

REFERENCES:

1. Applicable technical references
2. Contracted Logistics Support (CLS) Statement of Requirements/Objectives/Work (SOR/SOO/SOW)
3. Contracting Officer's Representative (COR) Duties & Responsibilities Guidebook(s)
4. DLA Customer Assistance Handbook
5. DoDI 4151.18 Maintenance of Military Material
6. DoDI 8523.01 Communication Security
7. DODI 8570.01-M Information Assurance Workforce Improvement Program
8. EKMS-1 (series) EKMS Policy and Procedures for Navy EKMS Tiers 2 & 3
9. EKMS-5E Cryptographic Equipment Information/Guidance Manual
10. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
11. MCO 1200.17_ Military Occupational Specialty Manual (MOS Manual)
12. MCO 2281.1_ Electronic Key Management System (EKMS) Policy
13. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
14. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
15. MCO 3504.1_ Marine Corps Lessons Learned Program (MCCLP) and the Marine Corps Center for Lessons Learned (MCCLL)
16. MCO 4081.2_ Marine Corps Performance Based Logistics (PBL)
17. MCO 4105.2_ Marine Corps Warranty Program
18. MCO 4200.33_ Contractor Logistics Support (CLS) for Ground Equipment, Weapon Systems, Munitions, and Information Systems
19. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
20. MCO 4400.82_ Regulated/Controlled Item Management Manual
21. MCO 4733.1_ Marine Corps Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
22. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
23. MCO P4400.150_ Consumer Level Supply Policy Manual
24. MCO P5215.17_ The Marine Corps Technical Publications System
25. MCTP 13-10C Unit Embarkation Handbook

26. MCTP 3-30B.2 (Formerly MCWP 3-40.3) MAGTF Communications System
27. MMSOP Maintenance Management Standard Operating Procedures
28. MPS Load Plan
29. NSTISSI 4000 COMSEC Maintenance and Maintenance Training Policy (NSA)
30. OpOrd Operational Order
31. SECNAVINST 5510.30_ Information and Personnel Security Program
32. SECNAVINST 5510.36_ Department of the Navy Information and Personnel Security Program Regulations
33. SL 1-2/3 Index of Authorized Publications in Stock
34. T/O&E Table of Organization and Equipment
35. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
36. TI 4733 Series Calibration and TMDE Requirements and Programs
37. TI 5820-25/22_ Electromagnetic Environmental Effects (E3) Procedures for Installation of Communication Equipment on Marine Corps Platforms
38. TM 10209-10/1_ Use and Care of Hand Tools and Measuring Tools
39. TM 10510-OD/1_ General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Support Items & Tool Kits)
40. TM 2000-15/1_ Brief Description of U.S. Marine Corps Communication-Electronic Equipment
41. TM 2000-OD/2_ Principal Technical Characteristics of U.S. Marine Corps Communication-Electronics Equipment
42. TM 4700-15/1_ Ground Equipment Record Procedures
43. TM 4795-34/2_ Corrosion Prevention and Control, Rustproofing and Underbody Coating Procedures for Tactical Vehicles, Trailers, and Engineering Equipment
44. TM 5410-14/1_ Intermediate Maintenance Instructions, Electronics Maintenance Complex
45. TM 5411-14&P/2 Marine Corps Expeditionary Shelter System (MCESS)(Small Shelter Family) 10-Foot Rigid General Purpose Shelter Operation and Maintenance Instructions with Repair Parts List
46. TM 5411-14/1_ Marine Corps Expeditionary Shelter System (MCESS)(Small Shelter Family) Operation and Maintenance Instructions
47. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
48. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
49. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
50. TM 9999-15/2_ Electro-static Discharge (ESD) Management
51. UM 4400-60 Materiel Returns Program
52. UM PLMS User's Manual, Publication Library Management System

28XX-PROG-2001: Manage Class IX consumable inventory

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Ground electronics maintenance shops manage a variety of class IX consumable inventory within the shop, including consumables, reparable. DSI, layettes, broken unit of issue (BUI), etc.

MOS PERFORMING: 2831, 2841, 2847, 2862, 2871, 2874

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, equipment, the commander's authorization and the unit's SOP.

STANDARD: Ensuring continuous availability and 100% accounting of high usage, fast-moving items in accordance with MCO P4400.150, paragraph 5018.

PERFORMANCE STEPS:

1. Determine Class IX consumable requirements.
2. Maintain accountability of inventory.
3. Issue parts.
4. Conduct periodic inventories.
5. Establish re-order points, as required.
6. Requisition replacement parts, as required.
7. Conduct reconciliation, as required.

REFERENCES:

1. DLA Customer Assistance Handbook
2. FEDLOG Federal Logistic Data
3. Maintenance Float Catalog
4. MCO 4400.150_ Consumer Level Supply Policy
5. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
6. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
7. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
8. MCO P4400.151_ Intermediate-Level Supply Management Policy Manual
9. MCO P4450.7_ Marine Corps Warehousing Manual
10. MCO P5215.17_ The Marine Corps Technical Publications System
11. MMSOP Maintenance Management Standard Operating Procedures
12. TM 4700-15/1_ Ground Equipment Record Procedures
13. UM 4000-125 Retail Supply and Maintenance Execution Procedures
14. Unit SOP Unit's Standing Operating Procedures

28XX-PROG-2002: Coordinate internal/external logistics support programs

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

MOS PERFORMING: 2802, 2805, 2862, 2874, 2887, 2891

GRADES: SSGT, GYSGT, MSGT, MGYSGT, WO-1, CWO-2, CWO-3, CWO-4, CWO-5, CAPT, MAJ, LTCOL

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, Commander's guidance, a mission statement and program reports.

STANDARD: Ensuring that maintenance programs are initiated and managed per MCO 4790.2 FIELD-LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP).

PERFORMANCE STEPS:

1. Identify requirement for internal/external logistics support programs.
2. Determine equipment eligibility.
3. Supervise preparation of equipment.
4. Monitor equipment in internal/external logistics support programs, as required.
5. Coordinate return of equipment from internal/external logistics support programs, as required.
6. Supervise disposition of internal/external logistics support program usage, as required.

REFERENCES:

1. Contracted Logistics Support (CLS) Statement of Requirements/Objectives/Work (SOR/SOO/SOW)
2. Contracting Officer's Representative (COR) Duties & Responsibilities Guidebook(s)
3. DLA Customer Assistance Handbook
4. DoDI 8523.01 Communication Security
5. Maintenance Float Catalog
6. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
7. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
8. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
9. MCO 4000.51_ Automatic Identification Technology (AIT)
10. MCO 4000.57_ Marine Corps Total Life Cycle Management (TLCM) of Ground Weapons Equipment and Material
11. MCO 4000.58_ Marine Corps Logistics Command
12. MCO 4081.2_ Marine Corps Performance Based Logistics (PBL)
13. MCO 4105.2_ Marine Corps Warranty Program
14. MCO 4200.33_ Contractor Logistics Support (CLS) for Ground Equipment, Weapon Systems, Munitions, and Information Systems
15. MCO 4400.113_
Defense Logistics Agency Maintenance Instructions or Technical Maintenance Standards
16. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
17. MCO 4400.82_ Regulated/Controlled Item Management Manual
18. MCO 4733.1_ Marine Corps Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
19. MCO 4790.24_ Enterprise Lifecycle Maintenance Program
20. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
21. MCO P4400.150_ Consumer Level Supply Policy Manual
22. MCO P4400.151_ Intermediate-Level Supply Management Policy Manual
23. MCO P4400.160_ Field Supply and Maintenance Analysis Office Program (FSMAO)
24. MMSOP Maintenance Management Standard Operating Procedures
25. TI-4733-35/23_ Navy and Marine Corps Calibration Laboratory Audit/Certification Manual
26. TM 10793A-OD/1_ Module Test & Repair Tracking System (Marines) User's Guide
27. TM 4700-15/1_ Ground Equipment Record Procedures
28. TM 4795-34/2_ Corrosion Prevention and Control, Rustproofing and Underbody Coating Procedures for Tactical Vehicles, Trailers, and Engineering Equipment

29. TM 4795-OR/1_ Organizational Corrosion Prevention and Control Procedures for USMC Ground Combat Equipment
 30. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
 31. UM 4400-60 Materiel Returns Program
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28XX-PROG-2003: Administer publication control program

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

MOS PERFORMING: 2831, 2841, 2847, 2862, 2871, 2874, 2887

GRADES: LCPL, CPL, SGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, a consolidated memorandum receipt (CMR), PLMS, publications, SL 1-2/3, a Table of Equipment (T/E) and the unit's SOP.

STANDARD: Establishing and maintaining a publications library in accordance with MCO 4790.2 FIELD-LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP).

PERFORMANCE STEPS:

1. Determine required publications.
2. Reconcile publications on hand.
3. Requisition required publications, as required.
4. Inventory publications.
5. Incorporate changes, as required.
6. Dispose of publications, as required.
7. Update records.

REFERENCES:

1. Applicable technical references
2. MCBUL 5600 Marine Corps Doctrinal Publication Status
3. MCO 5215.1_ Marine Corps Directives Management Program
4. MCO 5215.16_ Interservicing of Technical Manuals and Related Technology
5. MCO P5215.17_ The Marine Corps Technical Publications System
6. MMSOP Maintenance Management Standard Operating Procedures
7. NAVMC 10772 Recommended Changes to Technical Publications
8. NAVMC 2761 Catalog of Publications
9. PLMS V3 UG Publication Library Management System Version 3 Users Guide
10. SL 1-2/3 Index of Authorized Publications in Stock
11. T/O&E Table of Organization and Equipment
12. TM 4700-15/1_ Ground Equipment Record Procedures
13. UM 4000-125 Retail Supply and Maintenance Execution Procedures
14. UM PLMS User's Manual, Publication Library Management System
15. Unit SOP Unit's Standing Operating Procedures

SUPPORT REQUIREMENTS:

MATERIAL: Distance Learning Product Available: Verify Distance Learning

28XX-PROG-2004: Administer tool control program

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

MOS PERFORMING: 2831, 2841, 2847, 2862, 2871, 2874, 2887

GRADES: LCPL, CPL, SGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, designated tool kits, tool sets, chests, and equipment.

STANDARD: Maintaining accountability and control of all tool kits, chests, sets and organic equipment in accordance with MCO 4790.2 FIELD-LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP).

PERFORMANCE STEPS:

1. Identify all assigned tool sets, kits, chests and equipment.
2. Maintain Garrison Tool Allowance, as required.
3. Maintain special tools, as required.
4. Issue tool sets, chests, kits and equipment.
5. Enforce inventory interval.
6. Maintain records.
7. Maintain records.
8. Requisition replacements, as required.
9. Ensure security of all tool sets, chests, kits and organic equipment.

REFERENCES:

1. CMR Consolidated Memorandum Receipt
 2. DLA Customer Assistance Handbook
 3. FEDLOG Federal Logistic Data
 4. MCO 4400.150_ Consumer Level Supply Policy
 5. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
 6. MMSOP Maintenance Management Standard Operating Procedures
 7. SI 10510-10/1A Tool Warranty/Replacement Instructions for Using the USMC ServMart
 8. SI 10510-10/2 Tool Warranty/Replacement Instructions for Using Army Tools Website
 9. SL 1-2/3 Index of Authorized Publications in Stock
 10. T/O&E Table of Organization and Equipment
 11. TM 10209-10/1_ Use and Care of Hand Tools and Measuring Tools
 12. TM 4700-15/1_ Ground Equipment Record Procedures
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28XX-PROG-2005: Administer calibration control program

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

MOS PERFORMING: 2831, 2841, 2847, 2862, 2871, 2874, 2887

BILLETS: Calibrations Control NCO

GRADES: LCPL, CPL, SGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, Unit Annual Calibrations Review, and equipment.

STANDARD: Ensuring effective use of calibration laboratory resources and availability of calibrated TMDE in accordance with MCO 4790.2 FIELD-LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP).

PERFORMANCE STEPS:

1. Identify equipment requiring calibration.
2. Prepare calibration control records, as required.
3. Determine calibration control category.
4. Schedule items for calibration.
5. Submit equipment for calibration, as required.
6. Reconcile equipment in calibration, as required.
7. Receive equipment from calibration, as required.
8. Update calibration control records, as required.

REFERENCES:

1. CMR Consolidated Memorandum Receipt
2. FEDLOG Federal Logistic Data
3. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
4. MMSOP Maintenance Management Standard Operating Procedures
5. NAVMC 10772 Recommended Changes to Technical Publications
6. SL 1-2/3 Index of Authorized Publications in Stock
7. T/O&E Table of Organization and Equipment
8. TI 4733-15/13 Metrology Requirements List (METRL)
9. TI 4733-15/6_ Test Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Support
10. TM 10209-10/1_ Use and Care of Hand Tools and Measuring Tools
11. TM 4700-15/1_ Ground Equipment Record Procedures
12. UM 4000-125 Retail Supply and Maintenance Execution Procedures
13. UM 4790-5 MIMMS-AIS Field Maintenance Procedures
14. Unit SOP Unit's Standing Operating Procedures

28XX-PROG-2006: Administer modification control program

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

MOS PERFORMING: 2831, 2841, 2847, 2871, 2874, 2887

BILLETS: Modifications Control NCO

GRADES: LCPL, CPL, SGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, equipment, modification control forms and modification instructions.

STANDARD: Ensuring the application and recording of all modifications for the unit's equipment, in accordance with MCO 4790.2 FIELD-LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP).

PERFORMANCE STEPS:

1. Review modification report.
2. Identify equipment requiring modification.
3. Supervise induction of equipment into the maintenance cycle, as required.
4. Validate modification control records, as required.

REFERENCES:

1. Applicable Modification Instruction (MI)
 2. CMR Consolidated Memorandum Receipt
 3. EKMS-1 (series) EKMS Policy and Procedures for Navy EKMS Tiers 2 & 3
 4. EKMS-5E Cryptographic Equipment Information/Guidance Manual
 5. FEDLOG Federal Logistic Data
 6. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
 7. SL 1-2/3 Index of Authorized Publications in Stock
 8. TM 4700-15/1_ Ground Equipment Record Procedures
 9. UM 4000-125 Retail Supply and Maintenance Execution Procedures
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28XX-PROG-2007: Administer quality control program

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

MOS PERFORMING: 2862, 2874, 2887, 2891

GRADES: SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references and equipment.

STANDARD: Ensuring that equipment records have been completed and that proper maintenance actions have been completed in accordance with UM 4000-125 GCSS-MC User's Manual.

PERFORMANCE STEPS:

1. Determine performance standards.
2. Determine equipment requirements.
3. Determine qualified personnel.
4. Supervise final inspection tasks.

REFERENCES:

1. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
2. SL 1-2/3 Index of Authorized Publications in Stock
3. TM 4700-15/1_ Ground Equipment Record Procedures
4. UM 4000-125 Retail Supply and Maintenance Execution Procedures

NAVMC 3500.6C
06 Nov 2017

GROUND ELECTRONICS MAINTENANCE T&R MANUAL

CHAPTER 5

MOS 2802 INDIVIDUAL EVENTS

This chapter remains as a placeholder for future use. The 2802, Ground Electronics Maintenance Officer, military occupational specialty (MOS) is a career progression MOS for a 2805, Ground Electronics Maintenance Officer. Career progression and experience of the Marine that holds this MOS will execute the individual task of a 2805 (Chapter 6) with an increased level of responsibility that is expected of the rank; advising, managing, planning, directing, and supervising the employment of all ground electronic maintenance resources. The Marine will manage all maintenance requirements associated to his/her rank and shop/unit in accordance with the 2800 individual training events (Chapter 4.) The experience of the 2802, like the 2805 and 2891, is leveraged to evaluate and make recommendations to higher headquarters or supporting agencies on changes needed for future maintenance resources, processes, and capabilities. Additionally, the 2802 also provides advice, coordination, and recommendations to adjacent non-ground electronics programs (i.e., Motor Transportation, Ground Ordnance Maintenance, Engineer, etc.) with regard to associated ground electronic maintenance planning and support. The responsibility of the grade to which this officer is appointed is governed by the guidelines per Title 10 of the United States Code.

GROUND ELECTRONICS MAINTENANCE T&R MANUAL

CHAPTER 6

MOS 2805 INDIVIDUAL EVENTS

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GROUND ELECTRONICS MAINTENANCE T&R MANUAL

CHAPTER 6

MOS 2805 INDIVIDUAL EVENTS

6000. PURPOSE. This chapter details the individual events that pertain to Ground Electronics Maintenance Officers. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful. Also refer to Chapter 4 for 28XX individual training events for which 2805 Ground Electronics Maintenance Officers are responsible.

6001. EVENT CODING

Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX-XXXX. This chapter utilizes the following methodology

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

<u>Code</u>	<u>Description</u>
2805	Ground Electronics Maintenance Officer

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

<u>Code</u>	<u>Description</u>
ADMN	Maintenance Administration Support
OPS	Operations
SUPP	Supply Support

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

<u>Code</u>	<u>Description</u>
2000	Core Plus Skills

6002. INDEX OF INDIVIDUAL EVENTS

Event Code	Event	Page
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2805-ADMN-2001	Direct ground electronics maintenance	6-3
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6003. LIST OF INDIVIDUAL EVENTS

2805-ADMN-2001: Direct ground electronics maintenance

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 2802, 2805

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5, CAPT, MAJ, LTCOL

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, a maintenance unit, maintenance resources and a mission.

STANDARD: Ensuring the effective use of maintenance resources in accordance with MCO 4790.2 FIELD-LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP).

PERFORMANCE STEPS:

1. Provide technical advice to the Commander on commodity maintenance functions.
2. Direct maintenance/commodity operations.
3. Establish shop procedures.
4. Establish shop programs.
5. Conduct periodic equipment inspections.
6. Coordinate multi-commodity maintenance efforts.
7. Coordinate the use of maintenance resources.
8. Coordinate supply support.
9. Analyze maintenance information.
10. Establish quality control program.
11. Assign responsibility for maintenance related programs.

REFERENCES:

1. Applicable technical references
2. CMR Consolidated Memorandum Receipt
3. Contracted Logistics Support (CLS) Statement of Requirements/Objectives/Work (SOR/SOO/SOW)
4. DLA Customer Assistance Handbook
5. DoDD 8570.01M Information Assurance Workforce Improvement Program Incorporating Change 2
6. DoDI 4151.18 Maintenance of Military Material
7. DoDI 8523.01 Communication Security
8. EKMS-1 (series) EKMS Policy and Procedures for Navy EKMS Tiers 2 & 3
9. EKMS-5E Cryptographic Equipment Information/Guidance Manual
10. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
11. MCO 1130.76
12. MCO 1200.17_ Military Occupational Specialties (MOS) Marine Corps Manual (MOS Manual)
13. MCO 2281.1_ Electronic Key Management System (EKMS) Policy
14. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
15. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
16. MCO 4105.2_ Marine Corps Warranty Program
17. MCO 4200.33_ Contractor Logistics Support (CLS) for Ground Equipment, Weapon Systems, Munitions, and Information Systems
18. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)

19. MCO 4733.1_ Marine Corps Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
 20. MCO 5311.1_ Total Force Structure Process (TFSP)
 21. MCO P4400.150_ Consumer Level Supply Policy Manual
 22. MCO P4400.151 INTERMEDIATE-LEVEL SUPPLY MANAGEMENT POLICY MANUAL
 23. MCO P4400.160_ Field Supply and Maintenance Analysis Office Program (FSMAO)
 24. MCO P4400.82_ Marine Corps Unified Materiel Management System (MUMMS) Controlled Item Management Manual
 25. MCWP 3-40.3 MAGTF Communications System
 26. MMSOP Maintenance Management Standard Operating Procedures
 27. NSTISSI 4000 COMSEC Maintenance and Maintenance Training Policy (NSA)
 28. OpOrd Operational Order
 29. T/O&E Table of Organization and Equipment
 30. TI 4733 Series Calibration and TMDE Requirements and Programs
 31. TM 10510-OD/1_ General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Support Items & Tool Kits)
 32. TM 2000-15/1_ Brief Description of U.S. Marine Corps Communication-Electronic Equipment
 33. TM 2000-OD/2_ Principal Technical Characteristics of U.S. Marine Corps Communication-Electronics Equipment
 34. UM 4400-124 FMF SASSY Using Unit Procedures
 35. UM 4400-125 FMF SASSY Accounting Manual (VOL IV) Maintenance Float Procedures
 36. UM 4400-60 Materiel Returns Program
 37. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
 38. Unit SOP Unit's Standing Operating Procedures
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2805-OPS-2001: Plan ground electronics maintenance operations

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

MOS PERFORMING: 2802, 2805

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5, CAPT, MAJ, LTCOL

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, equipment, a mission and personnel.

STANDARD: Integrating with general maintenance/logistics operations and supported unit operations, and fulfilling requirements in accordance with MCO 4790.2_ Field Level Maintenance Management Policy.

PERFORMANCE STEPS:

1. Determine requirements.
2. Provide estimates of supportability.
3. Develop courses of action.
4. Develop orders.
5. Conduct transition.

REFERENCES:

1. CNSS 4000 Communication Security (COMSEC) Maintenance and Maintenance Training
2. Contracted Logistics Support (CLS) Statement of Requirements/Objectives/Work (SOR/SOO/SOW)
3. Contracting Officer's Representative (COR) Duties & Responsibilities Guidebook(s)
4. DLA Customer Assistance Handbook
5. DoDI 4151.18 Maintenance of Military Material
6. DoDI 8523.01 Communication Security
7. EKMS-1 (series) EKMS Policy and Procedures for Navy EKMS Tiers 2 & 3
8. EKMS-5E Cryptographic Equipment Information/Guidance Manual
9. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
10. MCO 1200.17_ Military Occupational Specialty Manual (MOS Manual)
11. MCO 2281.1_ Electronic Key Management System (EKMS) Policy
12. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
13. MCO 3504.1_ Marine Corps Lessons Learned Program (MCCLP) and the Marine Corps Center for Lessons Learned (MCCLL)
14. MCO 4081.2_ Marine Corps Performance Based Logistics (PBL)
15. MCO 4105.2_ Marine Corps Warranty Program
16. MCO 4200.33_ Contractor Logistics Support (CLS) for Ground Equipment, Weapon Systems, Munitions, and Information Systems
17. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
18. MCO 4733.1_ Marine Corps Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
19. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
20. MCO P4400.150_ Consumer Level Supply Policy Manual
21. MCO P4400.151 INTERMEDIATE-LEVEL SUPPLY MANAGEMENT POLICY MANUAL
22. MCO P4400.82_ Marine Corps Unified Materiel Management System (MUMMS) Controlled Item Management Manual
23. MMSOP Maintenance Management Standard Operating Procedures
24. MPS Load Plan
25. NSTISSI 4000 COMSEC Maintenance and Maintenance Training Policy (NSA)
26. T/O&E Table of Organization and Equipment
27. TI 4733 Series Calibration and TMDE Requirements and Programs
28. TM 2000-15/1_ Brief Description of U.S. Marine Corps Communication-Electronic Equipment
29. TM 2000-OD/2_ Principal Technical Characteristics of U.S. Marine Corps Communication-Electronics Equipment
30. UM 4400-124 FMF SASSY Using Unit Procedures
31. UM 4400-60 Materiel Returns Program
32. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

2805-SUPP-2001: Prepare a budget

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 2802, 2805

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5, CAPT, MAJ, LTCOL

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, commander's guidance, maintenance contracts and personnel training requirements.

STANDARD: Supporting forecast requirements and in accordance with MCO P7100.8_ Field Budget Guidance Manual.

PERFORMANCE STEPS:

1. Review mission.
2. Determine operational and maintenance requirements.
3. Review historical data.
4. Identify new project requirements.
5. Determine funding category.
6. Review maintenance contracts.
7. Determine costs for training personnel.
8. Review existing funds available.
9. Determine installation/construction dates for new projects.
10. Develop cost estimates for projects, maintenance and training.
11. Develop/plan a budget.
12. Submit budget.

REFERENCES:

1. CMR Consolidated Memorandum Receipt
2. MAL Unit Mechanized Allowance List (MAL)
3. MCO P7100.8_ Field Budget Guidance Manual
4. OpOrd Operational Order
5. POM_ Program Objective Memorandum (POM)
6. TEEP Training, Exercise and Evaluation Plan

GROUND ELECTRONICS MAINTENANCE T&R MANUAL

CHAPTER 7

MOS 2831 INDIVIDUAL EVENTS

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GROUND ELECTRONICS MAINTENANCE T&R MANUAL

CHAPTER 7

MOS 2831 INDIVIDUAL EVENTS

7000. PURPOSE. This chapter details the individual events that pertain to Digital Wideband Systems Maintainer. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful. Also refer to Chapter 4 for 28XX individual training events for which 2831 Digital Wideband Systems Maintainers are responsible.

7001. EVENT CODING

Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX-XXXX. This chapter utilizes the following methodology

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

<u>Code</u>	<u>Description</u>
2831	Digital Wideband Repairer

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

<u>Code</u>	<u>Description</u>
MAIN	Maintenance
OPS	Operations

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

<u>Code</u>	<u>Description</u>
1000	Core Skills

7002. INDEX OF INDIVIDUAL EVENTS

Event Code	Event	Page
1000 Level Events		
2831-MAIN-1001	Perform repair on Tactical Wideband Transmission System	7-3
2831-MAIN-1002	Perform repair on SATCOM equipment	7-4
2831-MAIN-1003	Perform repair on Troposcatter equipment	7-5
2831-MAIN-1004	Perform advanced corrective maintenance on digital wideband transmission systems to the piece-part component level.	7-6

2831-MAIN-1005	Perform corrective maintenance on satellite communication antennas.	7-7
2831-OPS-1001	Provide technical assistance during the programming, installation, operation, and maintenance of satellite communication systems.	7-9

7003. LIST OF INDIVIDUAL EVENTS

2831-MAIN-1001: Perform repair on Tactical Wideband Transmission System

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

MOS PERFORMING: 2831

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Returning equipment to serviceable condition in accordance with applicable technical references.

PERFORMANCE STEPS:

1. Perform acceptance tasks.
2. Determine applicable technical references.
3. Conduct initial inspection.
4. Requisition parts, if required.
5. Perform required maintenance actions.
6. Document maintenance actions.
7. Conduct final inspection.
8. Perform owner notification tasks, if required.

REFERENCES:

1. Applicable technical references
2. DLA Customer Assistance Handbook
3. FEDLOG Federal Logistic Data
4. FMFRP 4-14 Field Grounding Procedures for Computers and Generators
5. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
6. MCO 4400.150_ Consumer Level Supply Policy
7. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
8. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
9. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
10. MCO P5090.2_ Environmental Compliance and Protection Manual
11. MCO P5215.17_ The Marine Corps Technical Publications System
12. N6283300014 Navy Electronics and Electricity Training Series (NEETS)
13. SDS Safety Data Sheets
14. SL 1-2/3 Index of Authorized Publications in Stock
15. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
16. TM 4700-15/1_ Ground Equipment Record Procedures

17. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
 18. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
 19. TM 9999-15/2_ Electro-static Discharge (ESD) Management
 20. UM 4400.125 GCSS-MC User Manual
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2831-MAIN-1002: Perform repair on SATCOM equipment

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

MOS PERFORMING: 2831

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Returning equipment to serviceable condition in accordance with applicable technical references.

PERFORMANCE STEPS:

1. Perform acceptance tasks.
2. Determine applicable technical references.
3. Conduct initial inspection.
4. Requisition parts, if required.
5. Perform required maintenance actions.
6. Document maintenance actions.
7. Conduct final inspection.
8. Perform owner notification tasks, if required.

REFERENCES:

1. Applicable technical references
2. DLA Customer Assistance Handbook
3. FEDLOG Federal Logistic Data
4. FMFRP 4-14 Field Grounding Procedures for Computers and Generators
5. MAINT FLOAT CATALOG Maintenance Float Catalog
6. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
7. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
8. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
9. MCO 4400.150_ Consumer Level Supply Policy
10. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
11. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
12. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
13. MCO P5090.2_ Environmental Compliance and Protection Manual
14. MCO P5215.17_ The Marine Corps Technical Publications System
15. N6283300014 Navy Electronics and Electricity Training Series (NEETS)
16. SDS Safety Data Sheets

17. SL 1-2/3 Index of Authorized Publications in Stock
 18. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
 19. TM 4700-15/1_ Ground Equipment Record Procedures
 20. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
 21. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
 22. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
 23. TM 9999-15/2_ Electro-static Discharge (ESD) Management
 24. UM 4400.125 GCSS-MC User Manual
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2831-MAIN-1003: Perform repair on Troposcatter equipment

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

MOS PERFORMING: 2831

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Returning equipment to serviceable condition in accordance with applicable technical references.

PERFORMANCE STEPS:

1. Perform acceptance tasks.
2. Determine applicable technical references.
3. Conduct initial inspection.
4. Requisition parts, if required.
5. Perform required maintenance actions.
6. Document maintenance actions.
7. Conduct final inspection.
8. Perform owner notification tasks, if required.

REFERENCES:

1. Applicable technical references
2. FEDLOG Federal Logistic Data
3. FMFRP 4-14 Field Grounding Procedures for Computers and Generators
4. MCBUL 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
5. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
6. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
7. MCO 4400.150_ Consumer Level Supply Policy
8. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
9. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
10. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)

11. MCO P5090.2_ Environmental Compliance and Protection Manual
 12. MCO P5215.17_ The Marine Corps Technical Publications System
 13. N6283300014 Navy Electronics and Electricity Training Series (NEETS)
 14. SDS Safety Data Sheets
 15. SL 1-2/3 Index of Authorized Publications in Stock
 16. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
 17. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
 18. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
 19. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
 20. TM 9999-15/2_ Electro-static Discharge (ESD) Management
 21. UM 4400.125 GCSS-MC User Manual
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2831-MAIN-1004: Perform advanced corrective maintenance on digital wideband transmission systems to the piece-part component level.

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 2831

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, an assigned maintenance area, designated faulty equipment, TMDE and tools.

STANDARD: To return equipment to condition code "A" as defined in UM 4400-124, paragraph 4, page 4-22.

PERFORMANCE STEPS:

1. Adhere to safety requirements.
2. Research applicable technical data pertaining to faulty equipment.
3. Read schematic diagrams.
4. Ensure proper handling of static sensitive components/printed circuit cards.
5. Measure system performance.
6. Perform alignments.
7. Trace signal paths (signal flow).
8. Trace current/voltage paths.
9. Isolate faulty components
10. Requisition repair parts, as required.
11. Remove/replace faulty components.
12. Apply authorized modification and technical instructions.
13. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:

1. Applicable Technical Manuals Publications
2. EKMS-5E Cryptographic Equipment Information/Guidance Manual
3. FEDLOG Federal Logistic Data

4. FP 11358A FIELDING PLAN for the AN/TSC-156B TSST Phoenix
5. SI 10432A-15/1 Warranty Instructions for SMART-T AN/TSC-154
6. SL 1-2/3 Index of Authorized Publications in Stock
7. SL-4 Repair, Maintenance, and Management Lists
8. TI 10793-ID_ AN/USM-674 Test Station Gold Disk and Silver Disk Miniature/Microminiature (2M)/Module Test and Repair Program
9. TM 10432A-30/2 DIRECT SUPPORT MAINTENANCE MANUAL FOR TERMINAL, SATELLITE COMMUNICATION, SMART-T AN/TSC-154
10. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
11. ULSS 003232-15A User's Logistics Support Summary for Secure Mobile Anti-Jam Reliable Tactical Terminal (SMART-T) AN/TSC-154

SUPPORT REQUIREMENTS:

EQUIPMENT:

Support Equipment:

1. AN/TSC-85D GMF satellite terminal
2. AN/TSC-93D GMF satellite terminal
3. AN/TSC-154 SMART-T satellite terminal
4. AN/TSC-156B satellite terminal
5. AN/USC-65 LMST satellite terminal
6. Oscilloscope
7. Data communications analyzer
8. Multimeter
9. Dummy load
10. Watt meter
11. Spectrum analyzer

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Utilizing the common sense approach to maintenance, component level repair can be accomplished by this MOS if the technician possesses the required facilities, publications, skills, TMDE and tools. Training for this skill is normally provided by the 2M/ATE course.

2831-MAIN-1005: Perform corrective maintenance on satellite communication antennas.

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 2831

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, an assigned maintenance area, designated faulty equipment, TMDE and tools.

STANDARD: To return equipment to condition code "A" as defined in UM 4400-124, paragraph 4, page 4-22.

PERFORMANCE STEPS:

1. Adhere to safety requirements.
2. Research applicable technical data pertaining to faulty equipment.
3. Read schematic diagrams.
4. Ensure proper handling of static sensitive components/printed circuit cards.
5. Measure antenna performance.
6. Perform antenna alignments.
7. Trace signal paths (signal flow).
8. Trace current/voltage paths were applicable.
9. Isolate faulty components.
10. Evacuate LRU/SRU to higher echelon of maintenance, as required.
11. Requisition repair parts, as required.
12. Remove/replace faulty components.
13. Apply authorized modifications and technical instructions.
14. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:

1. Applicable Technical Manuals Publications
2. EKMS-1_ CMS Policy and Procedures for Navy EKMS Tiers 2 & 3
3. EKMS-5E Cryptographic Equipment Information/Guidance Manual
4. MCTP 8-10B How to Conduct Training
5. SI 11381A-OD/1 WARRANTY PROCEDURES FOR THE LARGE APERTURE MULTI-BAND DEPLOYABLE TRAILER MOUNTED COMMUNICATIONS ANTENNA, AS-4429D/TSC
6. SL 1-2/3 Index of Authorized Publications in Stock
7. SL-4 Repair, Maintenance, and Management Lists
8. TM 11381A-OD/1 (PCN 184...) OPERATOR AND DIRECT SUPPORT MAINTENANCE MANUAL for Large Aperture Multi-Band Deployable Antenna AS-4429D/TSC
9. TM 11-5985-431-13&P Operator's Unit and Direct Support Maintenance Manual (Including Repair Parts and Special Tools List) Antenna Communications, Trailer Mounted AS-4429/TSC
10. ULSS 006299-15B USERS LOGISTIC SUPPORT SUMMARY FOR LIGHTWEIGHT HIGH GAIN X-BAND ANTENNA (LHGXA) AND LARGE APERTURE MULTIBAND DEPLOYABLE ANTENNA (LAMDA) TRAILER MOUNTED ANTENNAS (TMAs), AS-4429/TSC (LHGXA)& AS-4429D/TSC (LAMDA)

SUPPORT REQUIREMENTS:

EQUIPMENT:

Support Equipment:

1. Digital multimeter
2. Wattmeter
3. Dummy load
4. AN/TSC-85D GMF satellite terminal
5. AN/TSC-93D GMFsatellite terminal
6. AN/TSC-154 SMART-T satellite terminal
7. AN/TSC-156B Phoenix satellite terminal
8. AN/USC-65 LMST satellite terminal

9. AS-3036 2.4 Meter X-Band Antenna
10. AS-4429 4.9 Meter Lightweight High Gain X-Band Antenna (LHGXA)
11. AS-4429 4.9 Meter Large Aperture Multi-Band Antenna (LAMDA)
12. Radiation meter
13. Quad band satellite emulator

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: Utilizing the common sense approach to maintenance, component level repair can be accomplished by this MOS if the technician possesses the required facilities, publications, skills, TMDE and tools. Training for this skill is normally provided by the 2M/ATE course.

2831-OPS-1001: Provide technical assistance during the programming, installation, operation, and maintenance of satellite communication systems.

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

MOS PERFORMING: 2831

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, satellite communications equipment and a mission.

STANDARD: To ensure satellite communication systems are installed and operate in accordance with the appropriate system technical manual.

PERFORMANCE STEPS:

1. Adhere to safety requirements.
2. Verify equipment is properly grounded.
3. Verify power source, proper phase and voltage levels.
4. Verify antenna installation, as required.
5. Verify remote capabilities, as required.
6. Verify COMSEC connection, as required.
7. Verify equipment operation to include equipment configuration and programming.
8. Verify equipment operating procedures to include COMSEC.
9. Perform electromagnetic interference troubleshooting.
10. Provide guidance to correct discrepancies noted.

REFERENCES:

1. Applicable Technical Manuals Publications
2. EKMS-1 (series) EKMS Policy and Procedures for Navy EKMS Tiers 2 & 3
3. EKMS-5E Cryptographic Equipment Information/Guidance Manual
4. SL 1-2/3 Index of Authorized Publications in Stock
5. TM 08348B-12/1 Satellite Communications Terminals AN/TSC-93D (V)1 w/ch 1&2: Operator & Organizational Maintenance Manual
6. TM 10432A-12/1 Operator's and Unit Maintenance Manual for Terminal, Satellite Communication AN/TSC-154

7. TM 11269A-OD/1 User's Guide for Data Communication Analyzer, FIREBERD 8000
8. TM 11269A-OD/5 User's Guide for FST-2310 TestPad SONET Services Module

SUPPORT REQUIREMENTS:

EQUIPMENT:

Training Equipment:

1. AN/TSC-85D GMF satellite terminal
2. AN/TSC-93D GMF satellite terminal
3. AN/TSC-154 SMART-T satellite terminal
4. AN/TSC-156B Phoenix satellite terminal
5. AN/USC-65 LMST satellite terminal
6. AS-3036 2.4 Meter X-Band Antenna
7. AS-4429 4.9 Meter Lightweight High Gain X-Band Antenna (LHGXA)
8. AS-4429 4.9 Meter Large Aperture Multi-Band Antenna (LAMDA)
9. Digital oscilloscope
10. Data communications analyzer
11. Multimeter
12. Dummy load
13. Wattmeter
14. AN/GSC-54 fiber optic converter
15. Power supply
16. Signal generator
17. Spectrum analyzer

GROUND ELECTRONICS MAINTENANCE T&R MANUAL

CHAPTER 8

MOS 2841 INDIVIDUAL EVENTS

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GROUND ELECTRONICS MAINTENANCE T&R MANUAL

CHAPTER 8

MOS 2841 INDIVIDUAL EVENTS

8000. PURPOSE. This chapter details the individual events that pertain to Ground Electronics Transmission Systems Maintainers and Electronics Maintenance Technicians. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful. Also refer to Chapter 4 for 28XX individual training events for which 2841 Ground Electronics Transmission Systems Maintainers are responsible.

8001. EVENT CODING

Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX-XXXX. This chapter utilizes the following methodology

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

<u>Code</u>	<u>Description</u>
2841	Ground Electronics Transmission Systems Maintainer

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

<u>Code</u>	<u>Description</u>
MAIN	Maintenance
OPS	Operations

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

<u>Code</u>	<u>Description</u>
1000	Core Skills
2000	Core Plus Skills

8002. INDEX OF INDIVIDUAL EVENTS

Event Code	E-Coded	Event	Page
2841-MAIN-1001	NO	Perform repair on ground radio equipment	8-3
2841-MAIN-1002	NO	Perform repair on intercommunication equipment	8-4
2841-MAIN-1003	NO	Perform repair on wireless mesh networking devices	8-5
2841-MAIN-2001	NO	Perform repair on mechanized vehicle electronics equipment	8-6

2841-OPS-2001	NO	Provide technical assistance during the IOM of ground radio equipment	8-7
2841-OPS-2002	NO	Provide technical assistance during the IOM of intercommunication equipment	8-8
2841-OPS-2003	NO	Provide technical assistance during the IOM of mechanized vehicle electronics equipment	8-9
2841-OPS-2004	NO	Provide technical assistance during the IOM of ground common SATCOM transmission layer equipment	8-11

8003. LIST OF INDIVIDUAL EVENTS

2841-MAIN-1001: Perform repair on ground radio equipment

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

MOS PERFORMING: 2841, 2862

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Returning equipment to serviceable condition in accordance with applicable technical references.

PERFORMANCE STEPS:

1. Perform acceptance tasks.
2. Determine applicable technical references.
3. Conduct initial inspection tasks.
4. Requisition parts, if required.
5. Perform required maintenance actions.
6. Document maintenance actions.
7. Conduct final inspection tasks.
8. Perform owner notification tasks, if required.

REFERENCES:

1. Applicable technical references
2. DLA Customer Assistance Handbook
3. FEDLOG Federal Logistic Data
4. FMFRP 4-14 Field Grounding Procedures for Computers and Generators
5. Maintenance Float Catalog
6. MARCORSYSCOM QUARTERLY FIRMWARE CONFIGURATION MANAGEMENT AMHS MESSAGE
7. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
8. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
9. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
10. MCO 4400.150_ Consumer Level Supply Policy
11. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
12. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)

13. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
 14. MCO P5090.2_ Environmental Compliance and Protection Manual
 15. MCO P5215.17_ The Marine Corps Technical Publications System
 16. N6283300014 Navy Electronics and Electricity Training Series (NEETS)
 17. SDS Safety Data Sheets
 18. SL 1-2/3 Index of Authorized Publications in Stock
 19. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
 20. TM 4700-15/1_ Ground Equipment Record Procedures
 21. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
 22. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
 23. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
 24. TM 9999-15/2_ Electro-static Discharge (ESD) Management
 25. UM 4400.125 GCSS-MC User Manual
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2841-MAIN-1002: Perform repair on intercommunication equipment

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

MOS PERFORMING: 2841, 2862

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Returning equipment to serviceable condition in accordance with applicable technical references.

PERFORMANCE STEPS:

1. Perform acceptance tasks.
2. Determine applicable technical references.
3. Conduct initial inspection tasks.
4. Requisition parts, if required.
5. Perform required maintenance actions.
6. Document maintenance actions.
7. Conduct final inspection tasks.
8. Perform owner notification tasks, if required.

REFERENCES:

1. Applicable technical references
2. DLA Customer Assistance Handbook
3. FEDLOG Federal Logistic Data
4. FMFRP 4-14 Field Grounding Procedures for Computers and Generators
5. Maintenance Float Catalog
6. MARCORSYSCOM QUARTERLY FIRMWARE CONFIGURATION MANAGEMENT AMHS MESSAGE
7. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
8. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program

9. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
 10. MCO 4400.150_ Consumer Level Supply Policy
 11. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
 12. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
 13. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
 14. MCO P5090.2_ Environmental Compliance and Protection Manual
 15. MCO P5215.17_ The Marine Corps Technical Publications System
 16. N6283300014 Navy Electronics and Electricity Training Series (NEETS)
 17. SDS Safety Data Sheets
 18. SL 1-2/3 Index of Authorized Publications in Stock
 19. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
 20. TM 4700-15/1_ Ground Equipment Record Procedures
 21. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
 22. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
 23. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
 24. TM 9999-15/2_ Electro-static Discharge (ESD) Management
 25. UM 4400.125 GCSS-MC User Manual
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2841-MAIN-1003: Perform repair on wireless mesh networking devices

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

MOS PERFORMING: 2841, 2862

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references and equipment.

STANDARD: Ensuring proper configuration of networked devices in order to repair network device fault.

PERFORMANCE STEPS:

1. Perform acceptance tasks.
2. Determine applicable technical references.
3. Conduct initial inspection tasks.
4. Requisition parts, if required.
5. Perform required maintenance actions.
6. Document maintenance actions.
7. Conduct final inspection tasks.
8. Perform owner notification tasks, if required.

REFERENCES:

1. Applicable technical references
2. DLA Customer Assistance Handbook
3. FEDLOG Federal Logistic Data
4. FMFRP 4-14 Field Grounding Procedures for Computers and Generators

5. Maintenance Float Catalog
 6. MARCORSYSCOM QUARTERLY FIRMWARE CONFIGURATION MANAGEMENT AMHS MESSAGE
 7. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
 8. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
 9. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
 10. MCO 4400.150_ Consumer Level Supply Policy
 11. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
 12. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
 13. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
 14. MCO P5090.2_ Environmental Compliance and Protection Manual
 15. MCO P5215.17_ The Marine Corps Technical Publications System
 16. N6283300014 Navy Electronics and Electricity Training Series (NEETS)
 17. SDS Safety Data Sheets
 18. SL 1-2/3 Index of Authorized Publications in Stock
 19. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
 20. TM 4700-15/1_ Marine Corps Ground Equipment Record Procedures
 21. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
 22. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
 23. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
 24. TM 9999-15/2_ Electro-static Discharge (ESD) Management
 25. UM 4400.125 GCSS-MC User Manual
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2841-MAIN-2001: Perform repair on mechanized vehicle electronics equipment

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

MOS PERFORMING: 2841, 2862

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Returning equipment to serviceable condition in accordance with applicable technical references.

PERFORMANCE STEPS:

1. Perform acceptance tasks.
2. Determine applicable technical references.
3. Conduct initial inspection tasks.
4. Requisition parts, if required.
5. Perform required maintenance actions.
6. Document maintenance actions.
7. Conduct final inspection tasks.
8. Perform owner notification tasks, if required.

REFERENCES:

1. Applicable technical references
 2. DLA Customer Assistance Handbook
 3. FEDLOG Federal Logistic Data
 4. Maintenance Float Catalog
 5. MARCORSYSCOM QUARTERLY FIRMWARE CONFIGURATION MANAGEMENT AMHS MESSAGE
 6. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
 7. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
 8. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
 9. MCO 4400.150_ Consumer Level Supply Policy
 10. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
 11. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
 12. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
 13. MCO P5090.2_ Environmental Compliance and Protection Manual
 14. MCO P5215.17_ The Marine Corps Technical Publications System
 15. N6283300014 Navy Electronics and Electricity Training Series (NEETS)
 16. SDS Safety Data Sheets
 17. SL 1-2/3 Index of Authorized Publications in Stock
 18. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
 19. TM 4700-15/1_ Ground Equipment Record Procedures
 20. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
 21. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
 22. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
 23. TM 9999-15/2_ Electro-static Discharge (ESD) Management
 24. UM 4400.125 GCSS-MC User Manual
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2841-OPS-2001: Provide technical assistance during the IOM of ground radio equipment

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Ground electronics maintenance Marines often assist equipment crew/operators in the installation and operation of equipment. In addition, ground electronics maintenance Marines often assist equipment crew/operators in troubleshooting equipment in operation, restoring equipment to operation. While ground electronics maintenance Marines are not utilized in the role of equipment crew/operators, they must have a thorough understanding in aspects of the proper installation and operation of equipment in order to determine when corrective action can be resolved by the equipment crew/operators and when equipment must be inducted into maintenance for field level maintenance actions.

MOS PERFORMING: 2841, 2862

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Ensuring proper equipment installation and operation, and identifying maintenance actions required to restore equipment operation as required in accordance with applicable equipment operation references.

PERFORMANCE STEPS:

1. Determine applicable equipment operation references.
2. Verify equipment configuration.
3. Verify software/firmware version, as required.
4. Verify equipment is properly grounded.
5. Verify power source.
6. Verify antenna installation, as required.
7. Verify remote capabilities, as required.
8. Verify COMSEC connection, as required.
9. Verify equipment operation.
10. Perform electromagnetic interference troubleshooting, as required.
11. Determine corrective action required, if applicable.

REFERENCES:

1. Applicable technical references
2. EKMS-1 (series) EKMS Policy and Procedures for Navy EKMS Tiers 2 & 3
3. EKMS-5E Cryptographic Equipment Information/Guidance Manual
4. MARCORSYSCOM QUARTERLY FIRMWARE CONFIGURATION MANAGEMENT AMHS MESSAGE
5. Operation/Exercise Order
6. SL 1-2/3 Index of Authorized Publications in Stock
7. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety

SUPPORT REQUIREMENTS:

EQUIPMENT:

Support Equipment:

1. Oscilloscope
2. Multimeter
3. Signal generator
4. Power supply
5. Data analyzer
6. Spectrum analyzer
7. Frequency counter
8. Ground tester

2841-OPS-2002: Provide technical assistance during the IOM of intercommunication equipment

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Ground electronics maintenance Marines often assist equipment crew/operators in the installation and operation of equipment. In addition, ground electronics maintenance Marines often assist equipment crew/operators in troubleshooting equipment in operation, restoring equipment to operation. While ground electronics maintenance Marines are not utilized in the role of equipment crew/operators, they must have a thorough understanding in aspects of the proper installation and operation of equipment in order to determine when corrective action can be resolved by the equipment crew/operators and when equipment must be inducted into maintenance for field level maintenance actions.

MOS PERFORMING: 2841, 2862

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Ensuring proper equipment installation and operation, and identifying maintenance actions required to restore equipment operation as required in accordance with applicable equipment operation references.

PERFORMANCE STEPS:

1. Determine applicable equipment operation references.
2. Verify equipment configuration.
3. Verify software/firmware version, as required.
4. Verify equipment is properly grounded.
5. Verify power source.
6. Verify antenna installation, as required.
7. Verify remote capabilities, as required.
8. Verify COMSEC connection, as required.
9. Verify equipment operation.
10. Perform electromagnetic interference troubleshooting, as required.
11. Determine corrective action required, if applicable.

REFERENCES:

1. Applicable technical references
2. EKMS-1 (series) EKMS Policy and Procedures for Navy EKMS Tiers 2 & 3
3. EKMS-5E Cryptographic Equipment Information/Guidance Manual
4. MARCORSYSCOM QUARTERLY FIRMWARE CONFIGURATION MANAGEMENT AMHS MESSAGE
5. Operation/Exercise Order
6. SL 1-2/3 Index of Authorized Publications in Stock
7. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety

SUPPORT REQUIREMENTS:

EQUIPMENT:

Support Equipment:

1. Oscilloscope
2. Multimeter
3. Signal generator
4. Power supply
5. Data analyzer
6. Spectrum analyzer

7. Frequency counter
 8. Ground tester
-

2841-OPS-2003: Provide technical assistance during the IOM of mechanized vehicle electronics equipment

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Ground electronics maintenance Marines often assist equipment crew/operators in the installation and operation of equipment. In addition, ground electronics maintenance Marines often assist equipment crew/operators in troubleshooting equipment in operation, restoring equipment to operation. While ground electronics maintenance Marines are not utilized in the role of equipment crew/operators, they must have a thorough understanding in aspects of the proper installation and operation of equipment in order to determine when corrective action can be resolved by the equipment crew/operators and when equipment must be inducted into maintenance for field level maintenance actions.

MOS PERFORMING: 2841, 2862

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Ensuring proper equipment installation and operation, and identifying maintenance actions required to restore equipment operation as required in accordance with applicable equipment operation references.

PERFORMANCE STEPS:

1. Determine applicable equipment operation references.
2. Verify equipment configuration.
3. Verify software/firmware version, as required.
4. Verify equipment is properly grounded.
5. Verify power source.
6. Verify antenna installation, as required.
7. Verify remote capabilities, as required.
8. Verify COMSEC connection, as required.
9. Verify equipment operation.
10. Perform electromagnetic interference troubleshooting, as required.
11. Determine corrective action required, if applicable.

REFERENCES:

1. Applicable technical references
2. EKMS-1 (series) EKMS Policy and Procedures for Navy EKMS Tiers 2 & 3
3. EKMS-5E Cryptographic Equipment Information/Guidance Manual
4. MARCORSYSCOM QUARTERLY FIRMWARE CONFIGURATION MANAGEMENT AMHS MESSAGE
5. Operation/Exercise Order
6. SL 1-2/3 Index of Authorized Publications in Stock

7. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety

SUPPORT REQUIREMENTS:

EQUIPMENT:

Support Equipment:

1. Oscilloscope
2. Multimeter
3. Signal generator
4. Power supply
5. Data analyzer
6. Spectrum analyzer
7. Frequency counter
8. Ground tester

2841-OPS-2004: Provide technical assistance during the IOM of ground common SATCOM transmission layer equipment

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

DESCRIPTION: Ground electronics maintenance Marines often assist equipment crew/operators in the installation and operation of equipment. In addition, ground electronics maintenance Marines often assist equipment crew/operators in troubleshooting equipment in operation, restoring equipment to operation. While ground electronics maintenance Marines are not utilized in the role of equipment crew/operators, they must have a thorough understanding in aspects of the proper installation and operation of equipment in order to determine when corrective action can be resolved by the equipment crew/operators and when equipment must be inducted into maintenance for field level maintenance actions.

MOS PERFORMING: 2841, 2862

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Ensuring proper equipment installation and operation, and identifying maintenance actions required to restore equipment operation as required in accordance with applicable equipment operation references.

PERFORMANCE STEPS:

1. Determine applicable equipment operation references.
2. Verify equipment configuration.
3. Verify software/firmware version, as required.
4. Verify equipment is properly grounded.
5. Verify power source.
6. Verify antenna installation, as required.
7. Verify remote capabilities, as required.

8. Verify COMSEC connection, as required.
9. Verify equipment operation.
10. Perform electromagnetic interference troubleshooting, as required.
11. Determine corrective action required, if applicable.

REFERENCES:

1. Applicable technical references
2. EKMS-1 (series) EKMS Policy and Procedures for Navy EKMS Tiers 2 & 3
3. EKMS-5E Cryptographic Equipment Information/Guidance Manual
4. MARCORSYSCOM QUARTERLY FIRMWARE CONFIGURATION MANAGEMENT AMHS MESSAGE
5. Operation/Exercise Order
6. SL 1-2/3 Index of Authorized Publications in Stock
7. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety

SUPPORT REQUIREMENTS:

EQUIPMENT:

Support Equipment:

1. Oscilloscope
2. Multimeter
3. Signal generator
4. Power supply
5. Data analyzer
6. Spectrum analyzer
7. Frequency counter
8. Ground tester

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CHAPTER 9

MOS 2847 INDIVIDUAL EVENTS

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GROUND ELECTRONICS MAINTENANCE T&R MANUAL

CHAPTER 9

MOS 2847 INDIVIDUAL EVENTS

9000. PURPOSE. This chapter details the individual events that pertain to Ground Electronics Telecommunications and Information Technology Systems Maintainer and Electronics Maintenance Technicians. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful. Also refer to Chapter 4 for 28XX individual training events for which 2847 Ground Electronics Telecommunications and Information Technology Systems Maintainers are responsible.

9001. EVENT CODING

Events in this T&R manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX-XXXX. This chapter utilizes the following methodology

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

<u>Code</u>	<u>Description</u>
2847	Ground Electronics Telecommunications and Information Technology Systems Maintainer

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

<u>Code</u>	<u>Description</u>
MAIN	Maintenance
OPS	Operations

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

<u>Code</u>	<u>Description</u>
1000	Core Skills
2000	Core Plus Skills

9002. INDEX OF INDIVIDUAL EVENTS

Event Code	E-Coded	Event	Page
2847-MAIN-1001	NO	Perform repair on telecommunications equipment	9-3
2847-MAIN-1002	NO	Perform repair on IT equipment	9-4
2847-MAIN-1003	NO	Perform repair on fiber optic cable/line equipment	9-5

2847-OPS-2001	NO	Provide technical assistance during the IOM of telecommunications equipment	9-6
2847-OPS-2002	NO	Provide technical assistance during the IOM of IT equipment	9-7
2847-OPS-2003	NO	Provide technical assistance during the IOM of COMSEC equipment	9-8

9003. 1000-LEVEL EVENTS

2847-MAIN-1001: Perform repair on telecommunications equipment

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

MOS PERFORMING: 2847, 2862

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Returning equipment to serviceable condition in accordance with applicable technical references.

PERFORMANCE STEPS:

1. Perform acceptance tasks.
2. Determine applicable technical references.
3. Conduct initial inspection tasks.
4. Requisition parts, if required.
5. Perform required maintenance actions.
6. Document maintenance actions.
7. Conduct final inspection tasks.
8. Return equipment to owner, if required.

REFERENCES:

1. Applicable technical references
2. DLA Customer Assistance Handbook
3. FEDLOG Federal Logistic Data
4. FMFRP 4-14 Field Grounding Procedures for Computers and Generators
5. Maintenance Float Catalog
6. MARCORSYSCOM QUARTERLY FIRMWARE CONFIGURATION MANAGEMENT AMHS MESSAGE
7. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
8. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
9. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
10. MCO 4400.150_ Consumer Level Supply Policy
11. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
12. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
13. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
14. MCO P5090.2_ Environmental Compliance and Protection Manual
15. MCO P5215.17_ The Marine Corps Technical Publications System
16. N6283300014 Navy Electronics and Electricity Training Series (NEETS)

17. SDS Safety Data Sheets
 18. SL 1-2/3 Index of Authorized Publications in Stock
 19. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
 20. TM 4700-15/1_ Ground Equipment Record Procedures
 21. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
 22. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
 23. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
 24. TM 9999-15/2_ Electro-static Discharge (ESD) Management
 25. UM 4400.125 GCSS-MC User Manual
-

2847-MAIN-1002: Perform repair on IT equipment

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

MOS PERFORMING: 2847, 2862

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Returning equipment to serviceable condition in accordance with applicable technical references.

PERFORMANCE STEPS:

1. Perform acceptance tasks.
2. Determine applicable technical references.
3. Conduct initial inspection tasks.
4. Requisition parts, if required.
5. Perform required maintenance actions.
6. Document maintenance actions.
7. Conduct final inspection tasks.
8. Perform owner notification tasks, if required.

REFERENCES:

1. Applicable technical references
2. DLA Customer Assistance Handbook
3. FEDLOG Federal Logistic Data
4. FMFRP 4-14 Field Grounding Procedures for Computers and Generators
5. Maintenance Float Catalog
6. MARCORSYSCOM QUARTERLY FIRMWARE CONFIGURATION MANAGEMENT AMHS MESSAGE
7. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
8. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
9. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
10. MCO 4400.150_ Consumer Level Supply Policy
11. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)

12. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
 13. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
 14. MCO P5090.2_ Environmental Compliance and Protection Manual
 15. MCO P5215.17_ The Marine Corps Technical Publications System
 16. N6283300014 Navy Electronics and Electricity Training Series (NEETS)
 17. SDS Safety Data Sheets
 18. SL 1-2/3 Index of Authorized Publications in Stock
 19. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
 20. TM 4700-15/1_ Ground Equipment Record Procedures
 21. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
 22. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
 23. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
 24. TM 9999-15/2_ Electro-static Discharge (ESD) Management
 25. UM 4400.125 GCSS-MC User Manual
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2847-MAIN-1003: Perform repair on fiber optic cable/line equipment

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

MOS PERFORMING: 2847, 2862

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Returning equipment to serviceable condition in accordance with applicable technical references.

PERFORMANCE STEPS:

1. Induct equipment into maintenance, if required.
2. Determine applicable technical references.
3. Conduct initial inspection.
4. Research applicable technical information.
5. Diagnose fault.
6. Troubleshoot.
7. Isolate fault.
8. Determine maintenance actions required.
9. Requisition parts, if required.
10. Perform required maintenance actions.
11. Align, as required.
12. Apply MIs/TIs, as required.
13. Apply firmware/software upgrades, as required.
14. Document maintenance actions.
15. Conduct final inspection.
16. Return equipment to owner, if required.

REFERENCES:

1. Applicable technical references
 2. DLA Customer Assistance Handbook
 3. DOD-HDBK-263B Electrostatic Discharge Control Handbook for Protection of Electrical and Electronic Parts, Assemblies and Equipment
 4. DOD-STD-1686 Electrostatic Discharge Control
 5. FEDLOG Federal Logistic Data
 6. FMFRP 4-14 Field Grounding Procedures for Computers and Generators
 7. Maintenance Float Catalog
 8. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
 9. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
 10. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
 11. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
 12. MCO P5090.2_ Environmental Compliance and Protection Manual
 13. MCO P5215.17_ The Marine Corps Technical Publications System
 14. MCTP 8-10B How to Conduct Training
 15. MIL-STD-1686B Electro-Static Discharge Control Program for Protection of Electrical and Electronic Parts
 16. MIL-STD-188-124B Military Standard for Grounding
 17. N6283300014 Navy Electronics and Electricity Training Series (NEETS)
 18. SDS Safety Data Sheets
 19. SL 1-2/3 Index of Authorized Publications in Stock
 20. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
 21. TM 4700-15/1_ Ground Equipment Record Procedures
 22. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
 23. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
 24. TM 9999-15/2_ Electro-static Discharge (ESD) Management
 25. UM 4400-124 FMF SASSY Using Unit Procedures
 26. UM 4790-5 MIMMS-AIS Field Maintenance Procedures
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2847-OPS-2001: Provide technical assistance during the IOM of telecommunications equipment

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Ground electronics maintenance Marines often assist equipment crew/operators in the installation and operation of equipment. In addition, ground electronics maintenance Marines often assist equipment crew/operators in troubleshooting equipment in operation, restoring equipment to operation. While ground electronics maintenance Marines are not utilized in the role of equipment crew/operators, they must have a thorough understanding in aspects of the proper installation and operation of equipment in order to determine when corrective action can be resolved by the equipment crew/operators and when equipment must be inducted into maintenance for field level maintenance actions.

MOS PERFORMING: 2847, 2862

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Ensuring proper equipment installation and operation, and identifying maintenance actions required to restore equipment operation as required in accordance with applicable equipment operation references.

PERFORMANCE STEPS:

1. Determine applicable equipment operation references.
2. Verify equipment configuration.
3. Verify software/firmware version, as required.
4. Verify equipment is properly grounded.
5. Verify power source.
6. Verify antenna installation, as required.
7. Verify remote capabilities, as required.
8. Verify COMSEC connection, as required.
9. Verify equipment operation.
10. Perform electromagnetic interference troubleshooting, as required.
11. Determine corrective action required, if applicable.

REFERENCES:

1. Applicable technical references
2. EKMS-1 (series) EKMS Policy and Procedures for Navy EKMS Tiers 2 & 3
3. EKMS-5E Cryptographic Equipment Information/Guidance Manual
4. Operation/Exercise Order
5. SL 1-2/3 Index of Authorized Publications in Stock
6. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety

SUPPORT REQUIREMENTS:

EQUIPMENT:

Support Equipment:

1. Oscilloscope
2. Multimeter
3. Signal generator
4. Power supply
5. Data analyzer
6. Spectrum analyzer
7. Frequency counter
8. Ground tester

2847-OPS-2002: Provide technical assistance during the IOM of IT equipment

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Ground electronics maintenance Marines often assist equipment crew/operators in the installation and operation of equipment. In addition, ground electronics maintenance Marines often assist equipment crew/operators in troubleshooting equipment in operation, restoring equipment to operation. While ground electronics maintenance Marines are not utilized in the role of equipment crew/operators, they must have a thorough understanding in aspects of the proper installation and operation of equipment in order to determine when corrective action can be resolved by the equipment crew/operators and when equipment must be inducted into maintenance for field level maintenance actions.

MOS PERFORMING: 2847, 2862

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Ensuring proper equipment installation and operation, and identifying maintenance actions required to restore equipment operation as required in accordance with applicable equipment operation references.

PERFORMANCE STEPS:

1. Determine applicable equipment operation references.
2. Verify equipment configuration.
3. Verify software/firmware version, as required.
4. Verify equipment is properly grounded.
5. Verify power source.
6. Verify antenna installation, as required.
7. Verify remote capabilities, as required.
8. Verify COMSEC connection, as required.
9. Verify equipment operation.
10. Perform electromagnetic interference troubleshooting, as required.
11. Determine corrective action required, if applicable.

REFERENCES:

1. Applicable technical references
2. EKMS-1 (series) EKMS Policy and Procedures for Navy EKMS Tiers 2 & 3
3. EKMS-5E Cryptographic Equipment Information/Guidance Manual
4. Operation/Exercise Order
5. SL 1-2/3 Index of Authorized Publications in Stock
6. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety

SUPPORT REQUIREMENTS:

EQUIPMENT:

Support Equipment:

1. Oscilloscope
2. Multimeter
3. Signal generator
4. Power supply
5. Data analyzer
6. Spectrum analyzer
7. Frequency counter

8. Ground tester

2847-OPS-2003: Provide technical assistance during the IOM of COMSEC equipment

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Ground electronics maintenance Marines often assist equipment crew/operators in the installation and operation of equipment. In addition, ground electronics maintenance Marines often assist equipment crew/operators in troubleshooting equipment in operation, restoring equipment to operation. While ground electronics maintenance Marines are not utilized in the role of equipment crew/operators, they must have a thorough understanding in aspects of the proper installation and operation of equipment in order to determine when corrective action can be resolved by the equipment crew/operators and when equipment must be inducted into maintenance for field level maintenance actions.

MOS PERFORMING: 2847, 2862

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Ensuring proper equipment installation and operation, and identifying maintenance actions required to restore equipment operation as required in accordance with applicable equipment operation references.

PERFORMANCE STEPS:

1. Determine applicable equipment operation references.
2. Verify equipment configuration.
3. Verify software/firmware version, as required.
4. Verify equipment is properly grounded.
5. Verify power source.
6. Verify antenna installation, as required.
7. Verify remote capabilities, as required.
8. Verify COMSEC connection, as required.
9. Verify equipment operation.
10. Perform electromagnetic interference troubleshooting, as required.
11. Determine corrective action required, if applicable.

REFERENCES:

1. Applicable technical references
2. EKMS-1 (series) EKMS Policy and Procedures for Navy EKMS Tiers 2 & 3
3. EKMS-5E Cryptographic Equipment Information/Guidance Manual
4. MARCORSYSCOM QUARTERLY FIRMWARE CONFIGURATION MANAGEMENT AMHS MESSAGE
5. Operation/Exercise Order
6. SL 1-2/3 Index of Authorized Publications in Stock
7. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety

SUPPORT REQUIREMENTS:

EQUIPMENT:

Support Equipment:

1. Oscilloscope
2. Multimeter
3. Signal generator
4. Power supply
5. Data analyzer
6. Spectrum analyzer
7. Frequency counter
8. Ground tester

GROUND ELECTRONICS MAINTENANCE T&R MANUAL

CHAPTER 10

MOS 2848 INDIVIDUAL EVENTS

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GROUND ELECTRONICS MAINTENANCE T&R MANUAL

CHAPTER 10

MOS 2848 INDIVIDUAL EVENTS

10000. PURPOSE. This chapter details the individual events that pertain to Tactical Remote Sensor System (TRSS) Maintainers. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful. Also refer to Chapter 4 for 28XX individual training events for which 2848 Tactical Remote Sensor System (TRSS) Maintainers are responsible.

10001. EVENT CODING

Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX-XXXX. This chapter utilizes the following methodology

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

<u>Code</u>	<u>Description</u>
2848	Tactical Remote Sensor System (TRSS) Maintainer

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

<u>Code</u>	<u>Description</u>
MAIN	Maintenance
OPS	Operations

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

<u>Code</u>	<u>Description</u>
2000	Core Plus Skills

10002. INDEX OF INDIVIDUAL EVENTS

Event Code	E-Coded	Event	Page
2848-MAIN-2001	NO	Perform repair on ground sensor system equipment	10-2
2848-OPS-2001	NO	Provide technical assistance during the IOM of ground sensor system equipment	10-4

10003. LIST OF INDIVIDUAL EVENTS

2848-MAIN-2001: Perform repair on ground sensor system equipment

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Returning equipment to serviceable condition in accordance with applicable technical references.

PERFORMANCE STEPS:

1. Induct equipment into maintenance, if required.
2. Determine applicable technical references.
3. Conduct initial inspection.
4. Research applicable technical information.
5. Diagnose fault.
6. Troubleshoot.
7. Isolate fault.
8. Determine maintenance actions required.
9. Requisition parts, if required.
10. Perform required maintenance actions.
11. Align, as required.
12. Apply MIs/TIs, as required.
13. Apply firmware/software upgrades, as required.
14. Document maintenance actions.
15. Conduct final inspection.
16. Return equipment to owner, if required.

REFERENCES:

1. Applicable technical references
2. DLA Customer Assistance Handbook
3. FEDLOG Federal Logistic Data
4. FMFRP 4-14 Field Grounding Procedures for Computers and Generators
5. Maintenance Float Catalog
6. MARCORSYSCOM QUARTERLY FIRMWARE CONFIGURATION MANAGEMENT AMHS MESSAGE
7. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
8. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
9. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
10. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
11. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
12. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
13. MCO P5090.2_ Environmental Compliance and Protection Manual
14. MCO P5215.17_ The Marine Corps Technical Publications System
15. N6283300014 Navy Electronics and Electricity Training Series (NEETS)
16. SDS Safety Data Sheets
17. SL 1-2/3 Index of Authorized Publications in Stock
18. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
19. TM 4700-15/1_ Ground Equipment Record Procedures
20. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level

21. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
 22. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
 23. TM 9999-15/2_ Electro-static Discharge (ESD) Management
 24. UM 4400.125 GCSS-MC User Manual
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2848-OPS-2001: Provide technical assistance during the IOM of ground sensor system equipment

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Ground electronics maintenance Marines often assist equipment crew/operators in the installation and operation of equipment. In addition, ground electronics maintenance Marines often assist equipment crew/operators in troubleshooting equipment in operation, restoring equipment to operation. While ground electronics maintenance Marines are not utilized in the role of equipment crew/operators, they must have a thorough understanding in aspects of the proper installation and operation of equipment in order to determine when corrective action can be resolved by the equipment crew/operators and when equipment must be inducted into maintenance for field level maintenance actions.

MOS PERFORMING: 2848

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Ensuring proper equipment installation and operation, and identifying maintenance actions required to restore equipment operation as required in accordance with applicable equipment operation references.

PERFORMANCE STEPS:

1. Determine applicable equipment operation references.
2. Verify equipment configuration.
3. Verify software/firmware version, as required.
4. Verify equipment is properly grounded.
5. Verify power source.
6. Verify antenna installation, as required.
7. Verify remote capabilities, as required.
8. Verify COMSEC connection, as required.
9. Verify equipment operation.
10. Perform electromagnetic interference troubleshooting, as required.
11. Determine corrective action required, if applicable.

REFERENCES:

1. Applicable technical references
2. EKMS-1 (series) EKMS Policy and Procedures for Navy EKMS Tiers 2 & 3
3. EKMS-5E Cryptographic Equipment Information/Guidance Manual
4. Operation/Exercise Order

5. SL 1-2/3 Index of Authorized Publications in Stock
6. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety

SUPPORT REQUIREMENTS:

EQUIPMENT:

Support Equipment:

1. Oscilloscope
2. Multimeter
3. Signal generator
4. Power supply
5. Data analyzer
6. Spectrum analyzer
7. Frequency counter
8. Ground tester

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CHAPTER 11

MOS 2862 INDIVIDUAL EVENTS

This chapter remains as a placeholder for future use. The 2862, Ground Electronics Systems Maintenance Technician MOS is a career progression MOS for a 2831, Digital Wideband Systems Maintainer; 2841, Ground Electronics Transmission System Maintainers; and 2847, Ground Electronics Telecommunication and Information Technology Systems Maintainers. Skills progression training, experience, and rank of the Marine that holds this MOS will execute the individual training events of a 2831 (Chapter 7), 2841 (Chapter 9), and a 2847 (Chapter 10) at an advanced level; providing complex troubleshooting, supervision, training, and quality control of associated equipment. The Marine will manage all maintenance requirements associated to his/her rank and shop/unit in accordance with the 28XX individual training events (Chapter 4).

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CHAPTER 12

MOS 2871 INDIVIDUAL EVENTS

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GROUND ELECTRONICS MAINTENANCE T&R MANUAL

CHAPTER 12

MOS 2871 INDIVIDUAL EVENTS

12000. PURPOSE. This chapter details the individual events that pertain to Calibration Technicians and Metrology Technicians. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful. Also refer to Chapter 4 for 28XX individual training events for which 2871 Calibration Technicians are responsible.

12001. EVENT CODING

Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX-XXXX. This chapter utilizes the following methodology

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

<u>Code</u>	<u>Description</u>
2871	Calibration Technician

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

<u>Code</u>	<u>Description</u>
MAIN	Maintenance

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

<u>Code</u>	<u>Description</u>
1000	Core Skills

12002. INDEX OF INDIVIDUAL EVENTS

Event Code	E-Coded	Event	Page
2871-MAIN-1001	NO	Perform testing and calibration on Ground Common, General Purpose Mechanical Test Equipment.	12-3
2871-MAIN-1002	NO	Perform testing and calibration on high density, low complexity, Ground Common, General Purpose Electronic Test Equipment.	12-4
2871-MAIN-1003	NO	Perform repair on Ground Common, General Purpose Electronic Test Equipment	12-5

2871-MAIN-1004	NO	Perform testing and calibration on Ground Common, General Purpose Physical Dimensional Test Equipment	12-7
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12003. LIST OF INDIVIDUAL EVENTS

2871-MAIN-1001: Perform testing and calibration on Ground Common, General Purpose Mechanical Test Equipment.

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

MOS PERFORMING: 2871, 2874

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: In accordance with MCO 4790.2 Field-Level Maintenance Management Policy, TI 4733.35/24 Marine Corps Metrology Calibration Quality Assurance Program, MCSC PM-TMDE approved instrument calibration procedures, and applicable technical references.

PERFORMANCE STEPS:

1. Perform acceptance tasks.
2. Conduct initial inspection tasks.
3. Determine applicable equipment calibration procedures and amplifying procedural documentation.
4. Verify performance within accepted standards.
5. Adhere to safety requirements.
6. Verify environmental requirements.
7. Adhere to connector care requirements.
8. Verify accuracy of the unit under test, utilizing appropriate calibration procedures and equipment.
9. Conduct system re-alignment, as required.
10. Document maintenance actions.
11. Conduct final inspection tasks.
12. Perform owner notification tasks, if required.

REFERENCES:

1. Applicable Technical Manuals Publications
2. DLA Customer Assistance Handbook
3. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
4. MCO 4733.1_ Marine Corps Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
5. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
6. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
7. MCO 5215.17_ Marine Corps Technical Publication Management
8. NAVAIR 17-35FR-06 Facility Requirements
9. SDS Safety Data Sheets
10. SL 1-2/3 Index of Authorized Publications in Stock
11. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items

12. TI 4733-15/13 Metrology Requirements List (METRL)
13. TI 4733-35/24_ United States Marine Corps Metrology Calibration Quality Assurance Program
14. TI 4733-OD/1_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
15. TM 10510-OD/1_ General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Support Items & Tool Kits)
16. TM 4700-15/1_ Ground Equipment Record Procedures
17. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
18. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
19. TM 9999-15/2_ Electro-static Discharge (ESD) Management
20. UM 4000-125 Retail Supply and Maintenance Execution Procedures

SUPPORT REQUIREMENTS:

EQUIPMENT:

1. Unit under test, refer to TM 10510-OD/1
 2. A7420, 10811B, AN/TSM-214A, Expeditionary TMDE Maintenance System
 3. A7902, 11477B, TK-2800, Tool and Equipment Kit, Radio Set
-

2871-MAIN-1002: Perform testing and calibration on high density, low complexity, Ground Common, General Purpose Electronic Test Equipment.

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Calibration Technicians (2871) are formally trained entry level communication electronics repair technicians focused on supporting Ground Common, Test Measurement & Diagnostic Equipment (TMDE) with limited metrology based training. The measurement discipline area, ¿Electronic Test Equipment¿, consists of a broad range of TMDE types and exceeds core 2871 training. Therefore Calibration Technicians are only required to maintain proficiency of high density, low complexity ¿Electronic Test Equipment¿ as defined in below references utilizing organic test equipment within the AN/TSM-214A.

MOS PERFORMING: 2871, 2874

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: In accordance with MCO 4790.2 Field-Level Maintenance Management Policy, TI 4733.35/24 Marine Corps Metrology Calibration Quality Assurance Program, MCSC PM-TMDE approved instrument calibration procedures, and applicable technical references.

PERFORMANCE STEPS:

1. Perform acceptance tasks.

2. Conduct initial inspection tasks.
3. Determine applicable equipment calibration procedures and amplifying procedural documentation.
4. Determine applicable technical references.
5. Adhere to safety requirements.
6. Verify environmental requirements.
7. Adhere to connector care requirements.
8. Verify accuracy of the unit under test, utilizing appropriate calibration procedures and equipment.
9. Conduct system re-alignment, as required.
10. Document maintenance actions.
11. Conduct final inspection tasks.
12. Perform owner notification tasks, if required.

REFERENCES:

1. Applicable technical references
2. DLA Customer Assistance Handbook
3. FEDLOG Federal Logistic Data
4. FMFRP 4-14 Field Grounding Procedures for Computers and Generators
5. Maintenance Float Catalog
6. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
7. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
8. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
9. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
10. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
11. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
12. MCO P5090.2_ Environmental Compliance and Protection Manual
13. MCO P5215.17_ The Marine Corps Technical Publications System
14. N6283300014 Navy Electronics and Electricity Training Series (NEETS)
15. SDS Safety Data Sheets
16. SL 1-2/3 Index of Authorized Publications in Stock
17. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
18. TI 4733-OD/1_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
19. TM 4700-15/1_ Ground Equipment Record Procedures
20. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
21. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
22. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
23. TM 9999-15/2_ Electro-static Discharge (ESD) Management
24. UM 4400.125 GCSS-MC User Manual

SUPPORT REQUIREMENTS:

EQUIPMENT:

1. Unit under test, refer to TM 10510-OD/1
2. A7420, 10811B, AN/TSM-214A, Expeditionary TMDE Maintenance System
3. A7902, 11477B, TK-2800, Tool and Equipment Kit, Radio Set

2871-MAIN-1003: Perform repair on Ground Common, General Purpose Electronic Test Equipment

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Calibration Technicians (2871) are formally trained entry level communication electronics repair technicians focused on supporting Ground Common, Test Measurement & Diagnostic Equipment (TMDE) with limited metrology based training. Calibration Technicians are required to maintain proficiency in repair of equipment categorized within the Electronic Test Equipment measurement discipline area, utilizing organic test equipment within the AN/TSM-214A.

MOS PERFORMING: 2871, 2874

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: In accordance with MCO 4790.2 Field-Level Maintenance Management Policy, TI 4733.35/24 Marine Corps Metrology Calibration Quality Assurance Program, and applicable technical references.

PERFORMANCE STEPS:

1. Conduct initial inspection.
2. Induct equipment for Corrective Maintenance.
3. Determine if equipment is under warranty.
4. Determine if equipment is a secondary repairable asset.
5. Determine applicable technical references.
6. Adhere to safety requirements.
7. Diagnose fault.
8. Isolate fault.
9. Submit Product Quality Deficiency Report.
10. Determine maintenance actions required.
11. Requisition parts, if required.
12. Install parts, if required.
13. Perform required maintenance actions.
14. Apply MIs/TIs, as required.
15. Apply firmware/software upgrades, as required.
16. Conduct system re-alignment, as required.
17. Conduct post repair operational checks.
18. Document maintenance actions.
19. Conduct final inspection.

REFERENCES:

1. Applicable technical manuals/publications Applicable technical manuals/publications
2. MCO 4733.1_ Marine Corps Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
3. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
4. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
5. MCO P4030.36_ Marine Corps Packaging Manual

6. MCO P5215.17_ The Marine Corps Technical Publications System
7. MIL-STD-188-124B Military Standard for Grounding
8. NAVAIR 17-35FR-06 Facility Requirements
9. SDS Safety Data Sheets
10. SL 1-2/3 Index of Authorized Publications in Stock
11. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
12. TI 4733-15/13 Metrology Requirements List (METRL)
13. TI 4733-35/24_ United States Marine Corps Metrology Calibration Quality Assurance Program
14. TI 4733-ID/8_ Marine Corps Transfer Standards Program
15. TI 4733-OD/1_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
16. TM 10510-OD/1_ General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Support Items & Tool Kits)
17. TM 4700-15/1_ Ground Equipment Record Procedures
18. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
19. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
20. UM 4000-125 Retail Supply and Maintenance Execution Procedures

SUPPORT REQUIREMENTS:

EQUIPMENT:

1. Unit under test, refer to TM 10510-OD/1
2. A7420, 10811B, AN/TSM-214A, Expeditionary TMDE Maintenance System
3. A7902, 11477B, TK-2800, Tool and Equipment Kit, Radio Set

2871-MAIN-1004: Perform testing and calibration on Ground Common, General Purpose Physical Dimensional Test Equipment

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Metrology Technicians (2874) are middle to senior level technicians with combined experiences and advanced training needed to perform complex calibrations that are beyond the scope and abilities of entry-level Calibration Technicians (2871). Metrology technicians are required to maintain proficiency within all measurement discipline areas. Among the measurement discipline areas, Metrology technicians are solely responsible for calibration of all physical dimensional, ground common, general purpose test equipment classified as ¿Physical Dimensional¿ per the reference.

MOS PERFORMING: 2871, 2874

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: In accordance with MCO 4790.2 Field-Level Maintenance Management Policy, TI 4733.35/24 Marine Corps Metrology Calibration Quality Assurance Program, MCSC PM-TMDE approved instrument calibration procedures, and applicable technical references.

PERFORMANCE STEPS:

1. Conduct initial inspection.
2. Induct equipment into maintenance for calibration.
3. Determine applicable calibration procedures and amplifying procedural documentation.
4. Determine applicable technical references.
5. Adhere to safety requirements.
6. Apply MIs/TIs, as required.
7. Apply firmware/software upgrades, as required.
8. Verify environmental requirements.
9. Verify accuracy of the unit under test, utilizing appropriate calibration procedures and equipment.
10. Conduct system re-alignment, as required.
11. Generate automated testing data file, as required.
12. Document maintenance actions.
13. Conduct final inspection.

REFERENCES:

1. Applicable Technical Manuals Publications
2. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
3. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
4. MCO 4733.1_ Marine Corps Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
5. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
6. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
7. MCO P5215.17_ The Marine Corps Technical Publications System
8. MIL-STD-188-124B Military Standard for Grounding
9. NAVAIR 17-35FR-06 Facility Requirements
10. SDS Safety Data Sheets
11. SL 1-2/3 Index of Authorized Publications in Stock
12. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
13. TI 4733-15/13 Metrology Requirements List (METRL)
14. TI 4733-35/24_ United States Marine Corps Metrology Calibration Quality Assurance Program
15. TI 4733-OD/1_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
16. TM 10510-OD/1_ General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Support Items & Tool Kits)
17. TM 4700-15/1_ Ground Equipment Record Procedures
18. UM 4000-125 Retail Supply and Maintenance Execution Procedures
19. UM 4400.125 GCSS-MC User Manual

SUPPORT REQUIREMENTS:

EQUIPMENT:

1. Unit under test, refer to TM 10510-OD/1
2. A7420, 10811B, AN/TSM-214A, Expeditionary TMDE Maintenance System
3. A7902, 11477B, TK-2800, Tool and Equipment Kit, Radio Set

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CHAPTER 13

MOS 2874 INDIVIDUAL EVENTS

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GROUND ELECTRONICS MAINTENANCE T&R MANUAL

CHAPTER 13

MOS 2874 INDIVIDUAL EVENTS

13000. PURPOSE. This chapter details the individual events that pertain to Metrology Technicians. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful. Also refer to Chapter 4 for 28XX individual training events and Chapter 13 for 2871 individual training events for which 2874 Metrology Technicians are responsible.

13001. EVENT CODING

Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX-XXXX. This chapter utilizes the following methodology

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

<u>Code</u>	<u>Description</u>
2874	Metrology Technician

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

<u>Code</u>	<u>Description</u>
MAIN	Maintenance
MGMT	Maintenance Management

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

<u>Code</u>	<u>Description</u>
2000	Core Plus Skills

13002. INDEX OF INDIVIDUAL EVENTS

Event Code	E-Coded	Event	Page
2874-MAIN-2001	NO	Perform testing and calibration on Electronic laboratory standards	13-3
2874-MAIN-2002	NO	Perform repair on Electronic laboratory standards	13-4
2874-MAIN-2003	NO	Perform testing and calibration on low density, high complexity, Ground Common, General Purpose Electronic Test Equipment	13-6

2874-MAIN-2004	NO	Perform testing and calibration on Ground Common, General Purpose Electronic (RF) Test Equipment	13-7
2874-MAIN-2005	NO	Perform testing and calibration on Ground Common, General Purpose Electro-Optic Test Equipment	13-9
2874-MAIN-2006	NO	Perform repair on Electro-Optic, Ground Common, General Purpose Test Equipment	13-10
2874-MAIN-2007	NO	Perform testing and calibration on Mechanical & Physical Dimensional standards	13-11
2874-MAIN-2008	NO	Perform testing and calibration on Ground Common, General Purpose Automotive Test Equipment	13-13
2874-MGMT-2001	NO	Manage laboratory Quality Assurance Program	13-14
2874-MGMT-2002	NO	Manage calibration laboratory standards traceability	13-15
2874-MGMT-2003	NO	Manage Data Analysis Control Group (DACG) automated calibration and information systems	13-17
2874-MGMT-2004	NO	Perform the duties of Senior Calibration Chief, TMDE	13-17
2874-MGMT-2005	NO	Perform the duties as SNCOIC, TMDE Schools	13-19

13003. LIST OF INDIVIDUAL EVENTS

2874-MAIN-2001: Perform testing and calibration on Electronic laboratory standards

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

MOS PERFORMING: 2874

GRADES: SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: In accordance with MCO 4790.2 Field-Level Maintenance Management Policy, TI 4733.35/24 Marine Corps Metrology Calibration Quality Assurance Program, TI 4733-ID/8 Marine Corps Transfer Standards Program, MCSC PM-TMDE approved instrument calibration procedures, and applicable technical references.

PERFORMANCE STEPS:

1. Conduct initial inspection.
2. Determine Transfer Standards classification.
3. Induct standard into maintenance for calibration.
4. Determine applicable calibration procedures and amplifying procedural documentation.
5. Determine applicable technical references.

6. Adhere to safety requirements.
7. Apply MIs/TIs, as required.
8. Apply firmware/software upgrades.
9. Verify environmental requirements.
10. Adhere to connector care requirements, as required.
11. Verify accuracy of electronic laboratory standard utilizing appropriate calibration procedures and equipment.
12. Conduct system re-alignment, as required.
13. Generate automated testing data file, as required.
14. Document maintenance actions.
15. Conduct final inspection.

REFERENCES:

1. Applicable Technical Manuals Publications
2. MCO 4733.1_ Marine Corps Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
3. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
4. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
5. MCO P4030.36_ Marine Corps Packaging Manual
6. MCO P5215.17_ The Marine Corps Technical Publications System
7. MIL-STD-188-124B Military Standard for Grounding
8. NAVAIR 17-35FR-06 Facility Requirements
9. SDS Safety Data Sheets
10. SL 1-2/3 Index of Authorized Publications in Stock
11. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
12. TI 4733-15/13 Metrology Requirements List (METRL)
13. TI 4733-35/24_ United States Marine Corps Metrology Calibration Quality Assurance Program
14. TI 4733-ID/8_ Marine Corps Transfer Standards Program
15. TI 4733-OD/1_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
16. TM 10510-OD/1_ General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Support Items & Tool Kits)
17. TM 4700-15/1_ Ground Equipment Record Procedures
18. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
19. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
20. UM 4000-125 Retail Supply and Maintenance Execution Procedures
21. UM 4400.125 GCSS-MC User Manual

SUPPORT REQUIREMENTS:

EQUIPMENT:

1. A7420, 10811B, AN/TSM-214A, Expeditionary TMDE Maintenance System
 2. A7902, 11477B, TK-2800, Tool and Equipment Kit, Radio Set
 3. MCTSP supplied standards & ancillary equipment (see TI 4733-ID/8)
-

2874-MAIN-2002: Perform repair on Electronic laboratory standards

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Metrology technicians are required to maintain proficiency within all measurement discipline areas. Among the measurement discipline areas, Metrology technicians are solely responsible for all repairs of laboratory standards classified as ¿Electronic Standards¿ within the AN/TSM-214A, Expeditionary TMDE Maintenance System (ETMS).

MOS PERFORMING: 2874

GRADES: SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: In accordance with TI 4733.35/24 Marine Corps Metrology Calibration Quality Assurance Program, TI 4733-ID/8 Marine Corps Transfer Standards Program, MCO 4790.2 Field-Level Maintenance Management Policy, and applicable technical references.

PERFORMANCE STEPS:

1. Conduct initial inspection.
2. Determine Transfer Standards classification.
3. Induct standard for Corrective Maintenance.
4. Determine if standard is under warranty.
5. Determine if standard is a secondary repairable asset.
6. Determine applicable technical references.
7. Adhere to safety requirements.
8. Diagnose fault.
9. Isolate fault.
10. Submit Product Quality Deficiency Report.
11. Determine maintenance actions required.
12. Requisition parts, if required.
13. Install parts, if required.
14. Perform required maintenance actions.
15. Apply MIs/TIs, as required.
16. Apply firmware/software upgrades, as required.
17. Conduct system re-alignment, as required.
18. Conduct post repair operational checks.
19. Document maintenance actions.
20. Conduct final inspection.

REFERENCES:

1. Applicable Technical Manuals Publications
2. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
3. MCO 4733.1_ Marine Corps Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
4. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
5. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
6. MCO P4030.36_ Marine Corps Packaging Manual
7. MCO P5215.17_ The Marine Corps Technical Publications System

8. MIL-STD-188-124B Military Standard for Grounding
9. SDS Safety Data Sheets
10. SL 1-2/3 Index of Authorized Publications in Stock
11. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
12. TI 4733-15/13 Metrology Requirements List (METRL)
13. TI 4733-35/24_ United States Marine Corps Metrology Calibration Quality Assurance Program
14. TI 4733-ID/8_ Marine Corps Transfer Standards Program
15. TI 4733-OD/1_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
16. TM 10510-OD/1_ General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Support Items & Tool Kits)
17. TM 4700-15/1_ Ground Equipment Record Procedures
18. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
19. UM 4000-125 Retail Supply and Maintenance Execution Procedures

SUPPORT REQUIREMENTS:

EQUIPMENT:

- 1.A7420, 10811B, AN/TSM-214A, Expeditionary TMDE Maintenance System
- 2.A7902, 11477B, TK-2800, Tool and Equipment Kit, Radio Set
- 3.MCTSP supplied standards & ancillary equipment, refer to TI 4733-ID/8

2874-MAIN-2003: Perform testing and calibration on low density, high complexity, Ground Common, General Purpose Electronic Test Equipment

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Metrology Technicians (2874) are middle to senior level technicians with combined experiences and advanced training needed to perform complex calibrations that are beyond the scope and abilities of entry-level Calibration Technicians (2871). Metrology technicians are required to maintain proficiency within all measurement discipline areas. Among the measurement discipline areas, Metrology technicians are solely responsible for all electronic, low density, high complexity calibrations of ground common, general purpose test equipment classified as ¿Electronic Test Equipment¿ per the reference.

MOS PERFORMING: 2874

GRADES: SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: In accordance with MCO 4790.2 Field-Level Maintenance Management Policy, TI 4733.35/24 Marine Corps Metrology Calibration Quality Assurance Program, MCSC PM-TMDE approved instrument calibration procedures, and applicable technical references.

PERFORMANCE STEPS:

1. Conduct initial inspection.
2. Induct equipment into maintenance for calibration.
3. Determine applicable calibration procedures and amplifying procedural documentation.
4. Determine applicable technical references.
5. Adhere to safety requirements.
6. Apply MIs/TIs, as required.
7. Apply firmware/software upgrades, as required.
8. Verify environmental requirements.
9. Adhere to connector care requirements.
10. Verify accuracy of the unit under test, utilizing appropriate calibration procedures and equipment.
11. Conduct system re-alignment, as required.
12. Generate automated testing data file, as required.
13. Document maintenance actions.
14. Conduct final inspection.

REFERENCES:

1. Applicable Technical Manuals Publications
2. MCO 4733.1_ Marine Corps Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
3. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
4. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
5. MCO P4030.36_ Marine Corps Packaging Manual
6. MCO P5215.17_ The Marine Corps Technical Publications System
7. MIL-STD-188-124B Military Standard for Grounding
8. NAVAIR 17-35FR-06 Facility Requirements
9. SDS Safety Data Sheets
10. SL 1-2/3 Index of Authorized Publications in Stock
11. TI 4733-15/13 Metrology Requirements List (METRL)
12. TI 4733-35/24_ United States Marine Corps Metrology Calibration Quality Assurance Program
13. TI 4733-OD/1_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
14. TM 10510-OD/1_ General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Support Items & Tool Kits)
15. TM 4700-15/1_ Ground Equipment Record Procedures
16. UM 4000-125 Retail Supply and Maintenance Execution Procedures
17. UM 4400.125 GCSS-MC User Manual

SUPPORT REQUIREMENTS:

EQUIPMENT:

1. Unit under test, refer to TM 10510-OD/1
2. A7420, 10811B, AN/TSM-214A, Expeditionary TMDE Maintenance System
3. A7902, 11477B, TK-2800, Tool and Equipment Kit, Radio Set

2874-MAIN-2004: Perform testing and calibration on Ground Common, General Purpose Electronic (RF) Test Equipment

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Metrology Technicians (2874) are middle to senior level technicians with combined experiences and advanced training needed to perform complex calibrations that are beyond the scope and abilities of entry-level Calibration Technicians (2871). Metrology technicians are required to maintain proficiency within all measurement discipline areas. Among the measurement discipline areas, Metrology technicians are solely responsible for calibration of all electronic (RF), ground common, general purpose test equipment classified as ¿Electronic RF¿ per the reference.

MOS PERFORMING: 2874

GRADES: SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: In accordance with MCO 4790.2 Field-Level Maintenance Management Policy, TI 4733.35/24 Marine Corps Metrology Calibration Quality Assurance Program, MCSC PM-TMDE approved instrument calibration procedures, and applicable technical references.

PERFORMANCE STEPS:

1. Conduct initial inspection.
2. Induct equipment into maintenance for calibration.
3. Determine applicable calibration procedures and amplifying procedural documentation.
4. Determine applicable technical references.
5. Adhere to safety requirements.
6. Apply MIs/TIs, as required.
7. Apply firmware/software upgrades, as required.
8. Verify environmental requirements.
9. Adhere to connector care requirements.
10. Verify accuracy of the unit under test, utilizing appropriate calibration procedures and equipment.
11. Conduct system re-alignment, as required.
12. Generate automated testing data file, as required.
13. Document maintenance actions.
14. Conduct final inspection.

REFERENCES:

1. Applicable Technical Manuals Publications
2. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
3. MCO 4733.1_ Marine Corps Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
4. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
5. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
6. MCO P5215.17_ The Marine Corps Technical Publications System
7. MIL-STD-188-124B Military Standard for Grounding

8. SDS Safety Data Sheets
9. SL 1-2/3 Index of Authorized Publications in Stock
10. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
11. TI 4733-15/13 Metrology Requirements List (METRL)
12. TI 4733-35/24_ United States Marine Corps Metrology Calibration Quality Assurance Program
13. TI 4733-OD/1_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
14. TM 4700-15/1_ Ground Equipment Record Procedures
15. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
16. UM 4000-125 Retail Supply and Maintenance Execution Procedures
17. UM 4400.125 GCSS-MC User Manual

SUPPORT REQUIREMENTS:

EQUIPMENT:

1. Unit under test, refer to TM 10510-OD/1
2. A7420, 10811B, AN/TSM-214A, Expeditionary TMDE Maintenance System
3. A7902, 11477B, TK-2800, Tool and Equipment Kit, Radio Set

2874-MAIN-2005: Perform testing and calibration on Ground Common, General Purpose Electro-Optic Test Equipment

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

MOS PERFORMING: 2874

GRADES: SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: In accordance with MCO 4790.2 Field-Level Maintenance Management Policy, TI 4733.35/24 Marine Corps Metrology Calibration Quality Assurance Program, MCSC PM-TMDE approved instrument calibration procedures, and applicable technical references.

PERFORMANCE STEPS:

1. Conduct initial inspection.
2. Induct equipment into maintenance for calibration.
3. Determine applicable calibration procedures and amplifying procedural documentation.
4. Determine applicable technical references.
5. Adhere to safety requirements.
6. Apply MIs/TIs, as required.
7. Apply firmware/software upgrades, as required.
8. Verify environmental requirements.
9. Adhere to connector care requirements.

10. Verify accuracy of the unit under test, utilizing appropriate calibration procedures and equipment.
11. Conduct system re-alignment, as required.
12. Generate automated testing data file, as required.
13. Document maintenance actions.
14. Conduct final inspection.

REFERENCES:

1. Applicable Technical Manuals Publications
2. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
3. MCO 4733.1_ Marine Corps Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
4. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
5. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
6. MCO P5090.2_ Environmental Compliance and Protection Manual
7. MCO P5215.17_ The Marine Corps Technical Publications System
8. MIL-STD-188-124B Military Standard for Grounding
9. NAVAIR 17-35FR-06 Facility Requirements
10. SL 1-2/3 Index of Authorized Publications in Stock
11. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
12. TI 4733-15/13 Metrology Requirements List (METRL)
13. TI 4733-35/24_ United States Marine Corps Metrology Calibration Quality Assurance Program
14. TI 4733-OD/1_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
15. TM 10510-OD/1_ General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Support Items & Tool Kits)
16. TM 4700-15/1_ Ground Equipment Record Procedures
17. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
18. UM 4000-125 Retail Supply and Maintenance Execution Procedures
19. UM 4400.125 GCSS-MC User Manual

SUPPORT REQUIREMENTS:

EQUIPMENT:

1. Unit under test, refer to TM 10510-OD/1
2. A7420, 10811B, AN/TSM-214A, Expeditionary TMDE Maintenance System
3. A7902, 11477B, TK-2800, Tool and Equipment Kit, Radio Set

2874-MAIN-2006: Perform repair on Electro-Optic, Ground Common, General Purpose Test Equipment

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 2874

GRADES: SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission, personnel, and equipment.

STANDARD: In accordance with MCO 4790.2 Field-Level Maintenance Management Policy, TI 4733.35/24 Marine Corps Metrology Calibration Quality Assurance Program, and applicable technical references.

PERFORMANCE STEPS:

1. Conduct initial inspection.
2. Induct equipment for Corrective Maintenance.
3. Determine if equipment is under warranty.
4. Determine applicable technical references.
5. Adhere to safety requirements.
6. Diagnose fault.
7. Isolate fault.
8. Submit Product Quality Deficiency Report.
9. Determine maintenance actions required.
10. Determine if faulty component is a secondary repairable asset.
11. Requisition parts, if required.
12. Install parts, if required.
13. Perform required maintenance actions.
14. Apply MIs/TIs, as required.
15. Apply firmware/software upgrades, as required.
16. Conduct system re-alignment, as required.
17. Conduct post repair operational checks.
18. Document maintenance actions.
19. Conduct final inspection.
20. Create Calibration Task, if required.

REFERENCES:

1. Applicable Technical Manuals Publications
2. MCO 4733.1_ Marine Corps Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
3. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
4. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
5. MCO P5215.17_ The Marine Corps Technical Publications System
6. MIL-STD-188-124B Military Standard for Grounding
7. NAVAIR 17-35FR-06 Facility Requirements
8. SDS Safety Data Sheets
9. SL 1-2/3 Index of Authorized Publications in Stock
10. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
11. TI 4733-15/13 Metrology Requirements List (METRL)
12. TI 4733-35/24_ United States Marine Corps Metrology Calibration Quality Assurance Program
13. TI 4733-OD/1_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
14. TM 10510-OD/1_ General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Support Items & Tool Kits)
15. TM 4700-15/1_ Ground Equipment Record Procedures
16. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
17. UM 4000-125 Retail Supply and Maintenance Execution Procedures
18. UM 4400.125 GCSS-MC User Manual

SUPPORT REQUIREMENTS:

EQUIPMENT:

1. Unit under test, refer to TM 10510-OD/1
 2. A7420, 10811B, AN/TSM-214A, Expeditionary TMDE Maintenance System
 3. A7902, 11477B, TK-2800, Tool and Equipment Kit, Radio Set
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2874-MAIN-2007: Perform testing and calibration on Mechanical & Physical Dimensional standards

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Metrology Technicians (2874) are middle to senior level technicians with combined experiences and advanced training needed to perform complex calibrations that are beyond the scope and abilities of entry-level Calibration Technicians (2871). Metrology technicians are required to maintain proficiency within all measurement discipline areas. Among the measurement discipline areas, Metrology technicians are solely responsible for calibration of all mechanical & physical dimensional standards classified as Mech & Phys D. Standards within the AN/TSM-214A, Expeditionary TMDE Maintenance System (ETMS).

MOS PERFORMING: 2874

GRADES: SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: In accordance with MCO 4790.2 Field-Level Maintenance Management Policy, TI 4733.35/24 Marine Corps Metrology Calibration Quality Assurance Program, TI 4733-ID/8 Marine Corps Transfer Standards Program, MCSC PM-TMDE approved instrument calibration procedures, and applicable technical references.

PERFORMANCE STEPS:

1. Conduct initial inspection.
2. Determine Transfer Standards classification.
3. Induct standard into maintenance for calibration.
4. Determine applicable calibration procedures and amplifying procedural documentation.
5. Determine applicable technical references.
6. Adhere to safety requirements.
7. Apply MIs/TIs, as required.
8. Apply firmware/software upgrades, as required.
9. Verify environmental requirements.
10. Adhere to connector care requirements.
11. Verify accuracy of electronic laboratory standard utilizing appropriate calibration procedures and equipment.
12. Conduct system re-alignment, as required.
13. Generate automated testing data file, as required.
14. Document maintenance actions.
15. Conduct final inspection.

REFERENCES:

1. Applicable Technical Manuals Publications
2. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
3. MCO 4733.1_ Marine Corps Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
4. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
5. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
6. MCO P5215.17_ The Marine Corps Technical Publications System
7. NAVAIR 17-35FR-06 Facility Requirements
8. SDS Safety Data Sheets
9. SL 1-2/3 Index of Authorized Publications in Stock
10. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
11. TI 4733-15/13 Metrology Requirements List (METRL)
12. TI 4733-35/24_ United States Marine Corps Metrology Calibration Quality Assurance Program
13. TI 4733-ID/8_ Marine Corps Transfer Standards Program
14. TI 4733-OD/1_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
15. TM 10510-OD/1_ General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Support Items & Tool Kits)
16. TM 10811A-OD&P/1A MAINTENANCE MANUAL FOR MAINTENANCE FACILITY, TRANSPORTABLE (CALIBRATION FACILITY)
17. TM 4700-15/1_ Ground Equipment Record Procedures
18. UM 4000-125 Retail Supply and Maintenance Execution Procedures
19. UM 4400.125 GCSS-MC User Manual

SUPPORT REQUIREMENTS:

EQUIPMENT:

1. A7420, 10811B, AN/TSM-214A, Expeditionary TMDE Maintenance System
2. A7902, 11477B, TK-2800, Tool and Equipment Kit, Radio Set
3. MCTSP supplied standards & ancillary equipment, refer to TI 4733-ID/8

2874-MAIN-2008: Perform testing and calibration on Ground Common, General Purpose Automotive Test Equipment

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Metrology Technicians (2874) are middle to senior level technicians with combined experiences and advanced training needed to perform complex calibrations that are beyond the scope and abilities of entry-level Calibration Technicians (2871). Metrology technicians are required to maintain proficiency within all measurement discipline areas. Among the measurement discipline areas, Metrology technicians are solely responsible for calibration of all automotive test sets & stands classified as Automotive Test Equipment per the reference.

MOS PERFORMING: 2874

GRADES: SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: In accordance with MCO 4790.2 Field-Level Maintenance Management Policy, TI 4733.35/24 Marine Corps Metrology Calibration Quality Assurance Program, TI 4733-35/25 Fleet Automotive Support, MCSC PM-TMDE approved instrument calibration procedures, and applicable technical references.

PERFORMANCE STEPS:

1. Conduct initial inspection.
2. Induct equipment into maintenance for calibration.
3. Determine applicable equipment calibration procedures and amplifying procedural documentation.
4. Determine applicable technical references.
5. Adhere to safety requirements.
6. Apply MIs/TIs, as required.
7. Apply firmware/software upgrades, as required.
8. Verify environmental requirements.
9. Verify accuracy of the unit under test, utilizing appropriate calibration procedures and equipment.
10. Conduct system re-alignment, as required.
11. Generate automated testing data file, as required.
12. Document maintenance actions.
13. Conduct final inspection.

REFERENCES:

1. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
2. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
3. MIL-STD-188-124B Military Standard for Grounding
4. NAVAIR 17-35FR-06 Facility Requirements
5. SDS Safety Data Sheets
6. SL 1-2/3 Index of Authorized Publications in Stock
7. TI 4733-15/13 Metrology Requirements List (METRL)
8. TI 4733-35/24_ United States Marine Corps Metrology Calibration Quality Assurance Program
9. TI 4733-OD/1_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
10. TM 4700-15/1_ Ground Equipment Record Procedures
11. UM 4000-125 Retail Supply and Maintenance Execution Procedures
12. UM 4400.125 GCSS-MC User Manual

SUPPORT REQUIREMENTS:

EQUIPMENT:

1. Unit under test, refer to TM 10510-OD/1
2. FAST support equipment, refer to TI 4733-35/25
3. A7420, 10811B, AN/TSM-214A, Expeditionary TMDE Maintenance System
4. A7902, 11477B, TK-2800, Tool and Equipment Kit, Radio Set

2874-MGMT-2001: Manage laboratory Quality Assurance Program

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Ground calibration facilities are directed to develop and maintain a Quality Assurance Program as documented in TI 4733-35/24. A Quality Assurance Program is defined as ;the organizational structure, responsibilities, procedures, processes and resources for implementing quality management.;

MOS PERFORMING: 2874

GRADES: SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, equipment, a mission, and personnel.

STANDARD: Ensuring calibration laboratory compliance with TI 4733-35/24_ United States Marine Corps Metrology Calibration Quality Assurance Program.

PERFORMANCE STEPS:

1. Prepare for evaluations.
2. Perform evaluation.
3. Correct deficiencies.
4. Maintain laboratory documents.
5. Maintain laboratory records.

REFERENCES:

1. Applicable Technical Manuals Publications
2. MCO 4733.1_ Marine Corps Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
3. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
4. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
5. NAVAIR 17-35FR-06 Facility Requirements
6. TI 4733-15/13 Metrology Requirements List (METRL)
7. TI 4733-35/24_ United States Marine Corps Metrology Calibration Quality Assurance Program
8. TI 4733-ID/8_ Marine Corps Transfer Standards Program
9. TI 4733-OD/1_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
10. TI-4733-35/23_ Navy and Marine Corps Calibration Laboratory Audit/Certification Manual
11. UM 4400.125 GCSS-MC User Manual

SUPPORT REQUIREMENTS:

EQUIPMENT: 1. A7420, 10811B, AN/TSM-214A, Expeditionary TMDE Maintenance System

2874-MGMT-2002: Manage calibration laboratory standards traceability

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Ground calibration facilities quality accreditation relies greatly on measurement traceability, both forward and backward. In order to maintain operational certification, Metrology Technicians must be able to manage and maintain traceability of all calibration laboratory standards to National or International Standards through the Marine Corps Transfer Standards Program, Navy Primary Standards Laboratory (NPSL) and other certified primary standards laboratories.

MOS PERFORMING: 2874

GRADES: SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, equipment, materials, and tools.

STANDARD: Ensuring the recall or removal from service of any standard or equipment in accordance with TI 4733-35/24_ United States Marine Corps Metrology Calibration Quality Assurance Program.

PERFORMANCE STEPS:

1. Coordinate receipt of standards, if applicable.
2. Schedule laboratory standards for calibration.
3. Schedule personnel to perform maintenance action.
4. Coordinate shipment of standards, if applicable.
5. Maintain laboratory standards.
6. Maintain all certificates of calibration for laboratory standards per the references.

REFERENCES:

1. Applicable Technical Manuals Publications
2. MCO 4733.1_ Marine Corps Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
3. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
4. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
5. MCO P4030.36_ Marine Corps Packaging Manual
6. NAVAIR 17-35FR-06 Facility Requirements
7. TI 4733-15/13 Metrology Requirements List (METRL)
8. TI 4733-35/24_ United States Marine Corps Metrology Calibration Quality Assurance Program
9. TI 4733-ID/8_ Marine Corps Transfer Standards Program
10. TI 4733-OD/1_ Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
11. TI-4733-35/23_ Navy and Marine Corps Calibration Laboratory Audit/Certification Manual
12. TM 10510-OD/1_ General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Support Items & Tool Kits)
13. TM 4700-15/1_ Ground Equipment Record Procedures
14. UM 4000-125 Retail Supply and Maintenance Execution Procedures

SUPPORT REQUIREMENTS:

EQUIPMENT:

1. A7420, 10811B, AN/TSM-214A, Expeditionary TMDE Maintenance System
 2. MCTSP Standards & ancillary equipment, refer to TI 4733-ID/8
-

2874-MGMT-2003: Manage Data Analysis Control Group (DACG) automated calibration and information systems

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 2874

GRADES: SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission requirement, equipment, personnel, and with the aid of references.

STANDARD: Detecting and reporting, or eliminating by adjustment, errors in tested equipment in accordance with applicable technical references.

PERFORMANCE STEPS:

1. Manage automated information system database.
2. Manage automated information system software.
3. Manage automated information system hardware.
4. Perform automated information system recovery plan.

REFERENCES:

1. Applicable Technical Manuals Publications
2. DACG Data Analysis Control Group
3. MCO 4733.1_ Marine Corps Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
4. PLMS Publications Library Management System
5. TI 4733-35/24 Quality Manual
6. TI 4733-35/24_ United States Marine Corps Metrology Calibration Quality Assurance Program

SUPPORT REQUIREMENTS:

EQUIPMENT: 1. A7420, 10811B, AN/TSM-214A, Expeditionary TMDE Maintenance System

2874-MGMT-2004: Perform the duties of Senior Calibration Chief, TMDE

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 2874

GRADES: MGYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references and when assigned to the billet.

STANDARD: To accomplish program objectives for development, production and sustainment to meet the user's operational needs as described in DOD Directives 5000.01 and 5000.02.

PERFORMANCE STEPS:

1. Analyze mission, directives, policy, guidance, and references.
2. Advise the Product Manager, TMDE on Marine Corps TMDE Calibration and Maintenance Program (CAMP) and Calibration/Metrology policy.
3. Provide quantitative data for the reporting cost, schedule and performance data for the A7420/10811B, AN/TSM-214A Expeditionary TMDE Maintenance System (ETMS).
4. Coordinate with the Calibration TMDE Management Systems (CTMS) Project Officer pertaining to TMDE calibration, acquisitions, services, research and development supporting the operating forces to sustain combat essential and mission critical equipment.
5. Coordinate and provide direction for the oversight of the Marine Corps Calibration Quality Assurance Program.
6. Participate in quality audits and surveillance visits to Marine Forces Ground Calibration Facilities.
7. Represent the Product Manager, TMDE during Navy Calibration/ Metrology Standing Committee (AIS Standing Committee), Test and Measurement Systems Executive Board (TAMS EB), and the Engineering Steering Committee (ESC) meetings.
8. Assist the Project Officer CTMS to manage fiscal requirements in the acquisition and support of Calibration Equipment.
9. Brief required personnel on TMDE and Calibration Equipment maintenance issues/challenges.
10. Assist the CTMS Project Officer to plan life-cycle sustainment strategy for TMDE, Calibration Equipment, and the A7420/10811B AN/TSM-214A Expeditionary TMDE Maintenance System (ETMS).

REFERENCES:

1. Certification Authority (CA) Procedural Handbook
2. Applicable Technical Manuals Publications
3. Certification Authority (CA) Procedural Handbook
4. CJCSI 3170.01_ Joint Capabilities Integration and Development System (JCIDS)
5. CJCSM 3170.01 Operation of the Joint Capability Integration and Development System (JCIDS)
6. Contracting Officer's Representative (COR) Duties & Responsibilities Guidebook(s)
7. DODD 5000.1 The Defense Acquisition System
8. DODI 5000.02 Operation of the Defense Acquisition System
9. FAR Federal Acquisition Regulation
10. HHDIR Higher Headquarters Directives
11. HHQ Guidance HHQ Guidance
12. MCO 3900.15_ Marine Corps Expeditionary Force Development System (EFDS)
13. MCO 4000.57_ Marine Corps Total Life Cycle Management (TLCM) of Ground Weapons Equipment and Material
14. MCO 4081.2_ Marine Corps Performance Based Logistics (PBL)
15. MCO 4105.2_ Marine Corps Warranty Program
16. MCO 4733.1_ Marine Corps Ground Test, Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)

17. MCO 5000.19
Marine Corps Systems Command
 18. SECNAVINST 5000.2_ IMPLEMENTATION AND OPERATION OF THE DEFENSE
ACQUISITION SYSTEM AND THE JOINT CAPABILITIES INTEGRATION AND
DEVELOPMENT SYSTEM
 19. TITLE 10 United States Code
-

2874-MGMT-2005: Perform the duties as SNCOIC, TMDE Schools

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

MOS PERFORMING: 2874

GRADES: MGYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a mission requirement, equipment, personnel, and with the aid of references.

STANDARD: To provide entry and career level training for Marines in the intermediate maintenance of ground Test Measurement and Diagnostic Equipment (TMDE) and to provide qualified maintainers and maintenance supervisors to the Operating Forces in accordance with MCO 1553.1, MCO 1553.2, and MCO 1553.10.

PERFORMANCE STEPS:

1. Review present TO&E and policies/procedures.
2. Coordinate with CMC (MMEA and T&E) on matters relating to entry level training for assigned regular and reserve Marines.
3. Supervise and mentor all Instructors of the Calibration Technician Course (CTC) and Metrology Technician Course (MTC).
4. Chair all Academic Review Boards (ARB) for all students.
5. Review and make changes and recommendations to: After Instruction Reports (AIRs), Program Of Instruction (POI), Quota Memorandum (TQM) and Marine Corps Training Integrated Management System (MCTIMS) for students assigned to future classes.
6. Monitor external evaluations to identify trends noted by the Operating Forces, and make recommendations as appropriate.
7. Conduct Course Content Review Boards (CCRBs) to identify and implement current/future requirements of the OpFor.
8. Review present TO&E and policies/procedures.
9. Develop/revise policies and procedures, as required.
10. Direct the establishment/revision of formal courses, as required
11. Manage formal student training.

REFERENCES:

1. Applicable Unit Policies and Procedures Applicable Unit Policies and Procedures
2. HHDIR Higher Headquarters Directives
3. HHQ Guidance HHQ Guidance
4. MCO 1553.1_ The Marine Corps Training and Education System

5. MCO 1553.10 Marine Corps Training Information Management System (MCTIMS) Standing Operating Procedures (SOP)
6. MCO 1553.2_ Management of Marine Corps Formal Schools and Training Detachments
7. NAVMC 1553.1_ Marine Corps Instructional Systems Design/Systems Approach to Training and Education Handbook
8. NAVMC 3500.6_ Ground Electronics Maintenance T&R Manual
9. Unit TO&E Table of Organization & Equipment

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CHAPTER 14

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CHAPTER 14

MOS 2887 INDIVIDUAL EVENTS

14000. PURPOSE. This chapter details the individual events that pertain to Artillery Electronics Technicians. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful. Also refer to Chapter 4 for 28XX individual training events for which 2887 Artillery Electronics Technicians are responsible.

14001. EVENT CODING

Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX-XXXX. This chapter utilizes the following methodology

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

<u>Code</u>	<u>Description</u>
2887	Artillery Electronics Technician

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

<u>Code</u>	<u>Description</u>
MAIN	Maintenance
OPS	Operations

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

<u>Code</u>	<u>Description</u>
1000	Core Skills
2000	Core Plus Skills

14002. INDEX OF INDIVIDUAL EVENTS

Event Code	E-Coded	Event	Page
2887-MAIN-1001	NO	Perform repair on artillery electronics equipment	14-3
2887-OPS-2001	NO	Provide technical assistance during the IOM of artillery electronics equipment	14-4

14003. LIST OF INDIVIDUAL EVENTS

2887-MAIN-1001: Perform repair on artillery electronics equipment

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

MOS PERFORMING: 2887

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Returning equipment to serviceable condition in accordance with applicable technical references.

PERFORMANCE STEPS:

1. Perform acceptance tasks.
2. Determine applicable technical references.
3. Conduct initial inspection tasks.
4. Requisition parts, if required.
5. Perform required maintenance actions.
6. Document maintenance actions.
7. Conduct final inspection tasks.
8. Perform owner notification tasks, if required.

REFERENCES:

1. Applicable technical references
2. DLA Customer Assistance Handbook
3. FEDLOG Federal Logistic Data
4. FMFRP 4-14 Field Grounding Procedures for Computers and Generators
5. Maintenance Float Catalog
6. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
7. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
8. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
9. MCO 4400.150_ Consumer Level Supply Policy
10. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
11. MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP)
12. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
13. MCO P5090.2_ Environmental Compliance and Protection Manual
14. MCO P5215.17_ The Marine Corps Technical Publications System
15. N6283300014 Navy Electronics and Electricity Training Series (NEETS)
16. SDS Safety Data Sheets
17. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
18. TM 4700-15/1_ Ground Equipment Record Procedures
19. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
20. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety
21. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
22. TM 9999-15/2_ Electro-static Discharge (ESD) Management
23. UM 4400.125 GCSS-MC User Manual

2887-OPS-2001: Provide technical assistance during the IOM of artillery electronics equipment

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Ground electronics maintenance Marines often assist equipment crew/operators in the installation and operation of equipment. In addition, ground electronics maintenance Marines often assist equipment crew/operators in troubleshooting equipment in operation, restoring equipment to operation. While ground electronics maintenance Marines are not utilized in the role of equipment crew/operators, they must have a thorough understanding in aspects of the proper installation and operation of equipment in order to determine when corrective action can be resolved by the equipment crew/operators and when equipment must be inducted into maintenance for field level maintenance actions.

MOS PERFORMING: 2887

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Ensuring proper equipment installation and operation, and identifying maintenance actions required to restore equipment operation as required in accordance with applicable equipment operation references.

PERFORMANCE STEPS:

1. Determine applicable equipment operation references.
2. Verify equipment configuration.
3. Verify software/firmware version, as required.
4. Verify equipment is properly grounded.
5. Verify power source.
6. Verify antenna installation, as required.
7. Verify remote capabilities, as required.
8. Verify COMSEC connection, as required.
9. Verify equipment operation.
10. Perform electromagnetic interference troubleshooting, as required.
11. Determine corrective action required, if applicable.

REFERENCES:

1. Applicable Technical Manuals Publications
2. EKMS-1 (series) EKMS Policy and Procedures for Navy EKMS Tiers 2 & 3
3. EKMS-5E Cryptographic Equipment Information/Guidance Manual
4. OpOrd Operational Order
5. SL 1-2/3 Index of Authorized Publications in Stock
6. TM 9406-15_ Grounding Procedures for Electromagnetic Interference Control and Safety

SUPPORT REQUIREMENTS:

EQUIPMENT:

1. Oscilloscope
2. Multimeter
3. Signal generator
4. Power supply
5. Data analyzer
6. Spectrum analyzer
7. Frequency counter
8. Ground tester

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CHAPTER 15

MOS 2891 INDIVIDUAL EVENTS

	<u>PARAGRAPH</u>	<u>PAGE</u>
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EVENT CODING.	15001	15-2
INDEX OF INDIVIDUAL EVENTS.	15002	15-2
LIST OF INDIVIDUAL EVENTS	15003	15-2

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CHAPTER 15

MOS 2891 INDIVIDUAL EVENTS

15000. PURPOSE. This chapter details the individual events that pertain to Ground Electronics Systems Maintenance Chiefs. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful. Also refer to Chapter 4 for 28XX individual training events for which 2891 Ground Electronics Systems Maintenance Chiefs are responsible.

15001. EVENT CODING

Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX-XXXX. This chapter utilizes the following methodology

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

<u>Code</u>	<u>Description</u>
2891	Ground Electronics Systems Maintenance Chief

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

<u>Code</u>	<u>Description</u>
MGMT	Maintenance Management

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

<u>Code</u>	<u>Description</u>
2000	Core Plus Skills

15002. INDEX OF INDIVIDUAL EVENTS

Event Code	E-Coded	Event	Page
2891-MGMT-2001	NO	Supervise ground electronics maintenance	15-2

15003. LIST OF INDIVIDUAL EVENTS

2891-MGMT-2001: Supervise ground electronics maintenance

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

MOS PERFORMING: 2891

GRADES: MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, a maintenance unit, maintenance resources and a mission.

STANDARD: Ensuring effective and efficient application of maintenance resources, maximum maintenance production, and compliance with MCO 4790.2 FIELD-LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP).

PERFORMANCE STEPS:

1. Provide technical advice to the Commander on commodity maintenance functions.
2. Supervise maintenance/commodity operations.
3. Supervise shop procedures.
4. Supervise shop programs.
5. Conduct periodic equipment inspections.
6. Coordinate multi-commodity maintenance efforts.
7. Supervise the use of maintenance resources.
8. Coordinate supply support.
9. Analyze maintenance information.
10. Supervise maintenance related programs.

REFERENCES:

1. Applicable technical references
2. CMR Consolidated Memorandum Receipt
3. Contracted Logistics Support (CLS) Statement of Requirements/Objectives/Work (SOR/SOO/SOW)
4. DLA Customer Assistance Handbook
5. DoDI 4151.18 Maintenance of Military Material
6. DoDI 8523.01 Communication Security
7. DODI 8570.01-M Information Assurance Workforce Improvement Program
8. EKMS-1 (series) EKMS Policy and Procedures for Navy EKMS Tiers 2 & 3
9. EKMS-5E Cryptographic Equipment Information/Guidance Manual
10. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
11. MCO 1200.17_ Military Occupational Specialty Manual (MOS Manual)
12. MCO 2281.1_ Electronic Key Management System (EKMS) Policy
13. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
14. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
15. MCO 4105.2_ Marine Corps Warranty Program
16. MCO 4200.33_ Contractor Logistics Support (CLS) for Ground Equipment, Weapon Systems, Munitions, and Information Systems
17. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
18. MCO 4400.82_ Regulated/Controlled Item Management Manual
19. MCO 4790.25 Ground Equipment Maintenance Program (GEMP)
20. MCO 4855.10_ Product Quality Deficiency Report (PQDR)
21. MCO 5311.1_ Total Force Structure Process (TFSP)
22. MCO P4400.150_ Consumer Level Supply Policy Manual
23. MCO P4400.151_ Intermediate-Level Supply Management Policy Manual
24. MCO P4400.160_ Field Supply and Maintenance Analysis Office Program (FSMAO)
25. MCO P5215.17_ The Marine Corps Technical Publications System
26. MCTP 13-10C Unit Embarkation Handbook
27. MCTP 3-30B.2 (Formerly MCWP 3-40.3) MAGTF Communications System

28. MCTP 3-40E Maintenance Operations
29. MCTP 8-10B How to Conduct Training
30. MCWP 3-40 Logistics Operations
31. MCWP 3-40.3 MAGTF Communications System
32. MCWP 4-11 Tactical-Level Logistics
33. MMSOP Maintenance Management Standard Operating Procedures
34. NSTISSI 4000 COMSEC Maintenance and Maintenance Training Policy (NSA)
35. OpOrd Operational Order
36. PLMS V3 UG Publication Library Management System Version 3 Users Guide
37. SL 1-2/3 Index of Authorized Publications in Stock
38. T/O&E Table of Organization and Equipment
39. TI 4733 Series Calibration and TMDE Requirements and Programs
40. TI 5820-25/22_ Electromagnetic Environmental Effects (E3) Procedures for Installation of Communication Equipment on Marine Corps Platforms
41. TM 10209-10/1_ Use and Care of Hand Tools and Measuring Tools
42. TM 10510-OD/1_ General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Support Items & Tool Kits)
43. TM 2000-15/1_ Brief Description of U.S. Marine Corps Communication-Electronic Equipment
44. TM 2000-OD/2_ Principal Technical Characteristics of U.S. Marine Corps Communication-Electronics Equipment
45. TM 4700-15/1_ Ground Equipment Record Procedures
46. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
47. UM 4400.125 GCSS-MC User Manual
48. UM 4400-123 FMF SASSY Management Unit Procedures
49. UM 4400-124 FMF SASSY Using Unit Procedures
50. UM 4400-125 FMF SASSY Accounting Manual (VOL IV) Maintenance Float Procedures
51. UM 4790-5 MIMMS-AIS Field Maintenance Procedures
52. Unit SOP Unit's Standing Operating Procedures

PREREQUISITE EVENTS:

28XX-ADMN-2002

28XX-PROG-2001

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CHAPTER 16

MOS 8641 INDIVIDUAL EVENTS

	<u>PARAGRAPH</u>	<u>PAGE</u>
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LIST OF INDIVIDUAL EVENTS	16003	16-2

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CHAPTER 16

MOS 8641 INDIVIDUAL EVENTS

16000. PURPOSE. This chapter details the individual events that pertain to Microminiature Repairer. Each individual event provides an event title, along with the conditions events will be performed under, and the standard to which the event must be performed to be successful. Also refer to Chapter 4 for 28XX individual training events for which 8641 Microminiature Repairer are responsible.

16001. EVENT CODING

Events in this T&R Manual are depicted with an up to 12-character, 3-field alphanumeric system, i.e. XXXX-XXXX-XXXX. This chapter utilizes the following methodology

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

<u>Code</u>	<u>Description</u>
8641	Microminiature Repairer

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

<u>Code</u>	<u>Description</u>
MAIN	Maintenance

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

<u>Code</u>	<u>Description</u>
2000	Core Plus Skills

16002. INDEX OF INDIVIDUAL EVENTS

Event Code	E-Coded	Event	Page
8641-MAIN-2001	NO	Perform repair on complex circuit cards	16-2
8641-MAIN-2002	NO	Create a test routine.	16-4

16003. LIST OF INDIVIDUAL EVENTS

8641-MAIN-2001: Perform repair on complex circuit cards

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

MOS PERFORMING: 8641

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Given a mission requirement, equipment, and with the aid of references.

STANDARD: Returning equipment to serviceable condition in accordance with applicable technical references.

PERFORMANCE STEPS:

1. Perform acceptance tasks.
2. Determine applicable technical references.
3. Conduct initial inspection tasks.
4. Diagnose fault.
5. Troubleshoot.
6. Isolate fault.
7. Requisition parts, if required.
8. Perform required maintenance actions.
9. Document maintenance actions.
10. Conduct final inspection tasks.
11. Perform owner notification tasks, if required.

REFERENCES:

1. Applicable technical references
2. DLA Customer Assistance Handbook
3. DOD-HDBK-263B Electrostatic Discharge Control Handbook for Protection of Electrical and Electronic Parts, Assemblies and Equipment
4. DOD-STD-1686 Electrostatic Discharge Control
5. FEDLOG Federal Logistic Data
6. FMFRP 4-14 Field Grounding Procedures for Computers and Generators
7. Maintenance Float Catalog
8. MCBul 3000_ Marine Corps Readiness Reportable Ground Equipment
9. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
10. MCO 3000.11_ Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy
11. MCO 4400.16_ Uniform Material Movement and Issue Priority System (UMMIPS)
12. MCO P5090.2_ Environmental Compliance and Protection Manual
13. MCO P5215.17_ The Marine Corps Technical Publications System
14. MCTP 8-10B How to Conduct Training
15. MIL-STD-1686B Electro-Static Discharge Control Program for Protection of Electrical and Electronic Parts
16. MIL-STD-188-124B Military Standard for Grounding
17. N6283300014 Navy Electronics and Electricity Training Series (NEETS)
18. SDS Safety Data Sheets
19. SL 1-2/3 Index of Authorized Publications in Stock
20. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
21. TM 5895-45/1_ Standard Maintenance Practices Miniature/Microminiature (2M) Electronic Assembly Repair Organizational/Intermediate/Depot Level
22. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
23. TM 9999-15/2_ Electro-static Discharge (ESD) Management
24. UM 4400-124 FMF SASSY Using Unit Procedures
25. UM 4790-5 MIMMS-AIS Field Maintenance Procedures

8641-MAIN-2002: Create a test routine.

EVALUATION-CODED: NO

SUSTAINMENT INTERVAL: 12 months

DESCRIPTION: Identify and record individual analog signatures for use in the diagnosis of faulty components to the microscopic level. Developed routines are certified and released at the enterprise level to support subsequent maintenance actions on assemblies for which test routines are created.

MOS PERFORMING: 8641

GRADES: PVT, PFC, LCPL, CPL, SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, automated test equipment, an application program set and known good circuit card assemblies.

STANDARD: Providing cost effective aid to diagnosis and repair of applicable circuit card assembly in accordance with TM 10793A-10/1, Chapter 5.

PERFORMANCE STEPS:

1. Develop test routine instructions.
2. Store component signatures.
3. Develop test routine illustrations.
4. Develop test routine database.
5. Verify test routine.
6. Submit quarterly Modular Test Repair Report.

REFERENCES:

1. MCO 2410.2_ Electromagnetic Environmental Effects (E3) Control Program
2. NAVSEA ST900-HN-GPT-020 Technical Reference and Operation Manual for PROTRACK I Model 20A/PROTRACK Scanner I
3. ST-90 Shortrak 90 User's Manual
4. TI 10793-ID_ AN/USM-674 Test Station Gold Disk and Silver Disk Miniature/Microminiature (2M)/Module Test and Repair Program
5. TI 4400-15/1_ Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
6. TI 5895-45/11 AN/USM-646 and AN/USM-674 Test Station Gold Disk and Silver Disk Program
7. TM 09810A-50/5_ MTR Gold Disk Test Routine Development Requirements Manual
8. TM 10793A-OD/1_ Module Test & Repair Tracking System (Marines) User's Guide
9. TM 9999-15/1_ Electro-Static Discharge (ESD) Awareness
10. TM 9999-15/2_ Electro-static Discharge (ESD) Management

SUPPORT REQUIREMENTS:

EQUIPMENT:

1. Applicable APS
2. AN/USM-674

NAVMC 3500.6C
06 Nov 2017

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APPENDIX A

ACRONYMS

AAadministrative action
ACCadministrative clerk course
ADC	. . . . .	.area distribution center
ADCON	. . . . .	.administrative control
ADJ	. . . . .	. . . . . Adjutant
ADP	. . . . .	.automatic data processing
ADOS	. . . . .	.Active Duty Operational Support
ADSW	. . . . .	.active duty special work
ADT	. . . . .	.active duty training
AFADBD	. . . . .	.armed forces active duty base date
AIC	. . . . .	.accounting identification code
AIS	. . . . .	.automated information systems
AMCITS	. . . . .	.American Citizens
AO	. . . . .	.area of operations
AO	. . . . .	.Approving Official
AOR	. . . . .	.area of responsibility
APAC	. . . . .	.advance personnel administrative chief course
APACS	. . . . .	.Aircraft and Personnel Area Clearance System
APDS	. . . . .	.all purpose date stamp
APES	. . . . .	.Automated Performance Evaluation System
APO	. . . . .	.Army Post Office
APS	. . . . .	.Awards Processing System
AR	. . . . .	.Active Reserve
ARCR	. . . . .	.Annual Retirement Credit Report
ASR	. . . . .	.Authorized Strength Report
AT	. . . . .	.Annual Training
BAS	. . . . .	.Basic Allowance for Subsistence
BAH	. . . . .	.Basic Allowance for Housing
BIC	. . . . .	.Billet Information Code
BIR	. . . . .	.basic individual record
BTR	. . . . .	.basic training record
BMOS	. . . . .	.Billet Military Occupational Specialty
BCNR	. . . . .	.Bureau of Corrections for Naval Records
CA	. . . . .	.Convening Authority
CACO	. . . . .	.Casualty Assistance Call Officer
CAC	. . . . .	.common access card
CDPA	. . . . .	.Central Design and Programming Activity
CertCom	. . . . .	.Certificate of Commendation
CHART	. . . . .	.Civilian Hiring and Recruitment Tool
CJCS	. . . . .	.Chairman of the Joint Chiefs of Staff
CJCSI	. . . . .	.Chairman of the Joint Chiefs of Staff instruction
CJCSM	. . . . .	.Chairman of the Joint Chiefs of Staff manual
CMC	. . . . .	.Commandant of the Marine Corps
CMCC	. . . . .	.Classified Material Control Center
CMF	. . . . .	.central master file
CMR	. . . . .	.Consolidated Memorandum Receipt
CMRRB	. . . . .	.Civilian Resource Management Review Board
CMS	. . . . .	.COMSEC materials system
CO	. . . . .	.commanding officer
COCOM	. . . . .	.Combatant Commander

COD collect on delivery
COLA Cost of Living Allowance
COMMARFOR Commander, Marine Corps Forces
COMMARFORLANT Commander, Marine Corps Forces, Atlantic
COMMARFORPAC Commander, Marine Corps Forces, Pacific
COMSEC communications security
CON conduct
CONGINT Congressional/Special Interest
CONUS Continental United States
COPE Custodian of Postal Effects
CRB Competency Review Board
CRCR Career Retirement Credit Report
CSP Career Sea Pay
CSR Consolidated Strength Report
CSR Command Staffing Report
CTZE Combat Tax Zone Exclusion
DFN Designated Foreign National
DISA Defense Information Systems Agency
DCIPS Defense Civilian Intelligence Personnel System
DCIPS Defense Casualty Information Processing System
DCP Directives Control Point
DCTB Date Current Tour Began
DEOCS Defense Equal Opportunity Climate Survey
DEERS Defense Enrollment Eligibility Reporting System
DES Disability Evaluation System
DIMHRS Defense Integrated Manpower Human Resource System
DISTLEARN distance learning
DFAS Defense Finance Accounting Service
DFR Diary Feedback Report
DLA dislocation allowance
DMM Domestic Mail Manual
DMS Defense Message System
DoD Department of Defense
DoDD Department of Defense directive
DoDI Department of Defense instruction
DoDFMR Department of Defense financial management regulations
DON Department of the Navy
DONCAF Department of the Navy Central Adjudication Facility
DOR Date of Rank
DR dental record
DRRS Defense Readiness Reporting System
DSR Deployment Status Report
DTAS Deployed Theatre Accountability System
DTMS Document Tracking Management System
DTOD Defense Table of Official Distances
DTP DoD Drug Testing Program
DTS Defense Travel System
EA Executive Agent
EAS End of Active Service
ECC End of Current Contract
EAD Extended Active Duty
EDA Estimated Date of Arrival
EDD Estimated Date of Departure
EDFR Electronic Diary Feedback Report
ELSIG electronic signature
EO Equal Opportunity
EOA Equal Opportunity Advisor

EPW Enemy Prisoner of War
 ESGM Enlisted Staffing Goal Model
 ETD Estimated Time of Delivery
 EUCU End User Computer Equipment
 FAP Fleet Assistance Program
 FCG Foreign Clearance Guide
 FMC Fleet Mail Center
 FMF Fleet Marine Force
 FMFM Fleet Marine Force manual
 FHTNR Fleet Home Town News Release
 FMCC future monitor command code
 FMR financial management regulations
 FPO Fleet Post Office
 FSA Family Separation Allowance
 FSGLI Family Service Member's Group Life Insurance
 FY fiscal year
 G-1 manpower or personnel staff officer
 G-2 intelligence staff officer
 G-3 operations staff officer
 G-4 logistics staff officer
 G-6 communications and information systems officer
 GCM Good Conduct Medal
 GEMS Global Enterprise Mail System
 GPO Government Printing Office
 GSA General Services Administration
 GTCC Government Travel Charge Card
 GTCCP Government Travel Charge Card Program
 GTN Global Transportation Network
 GTR Government Transportation Request
 HDP Hardship Duty Pay
 HFP Hostile Fire Pay
 HQMC Headquarters, Marine Corps
 HR health record
 HRO Human Resources Office
 HSAP Health Services Augmentation Program
 IA individual augment
 IAW in accordance with
 IADT Incremental Active Duty Training
 IDL International Date Line
 IDT Inactive Duty Training
 IHCA In Hands of Civilian Authorities
 IHFA In Hands of Foreign Authorities
 ID identification
 IDL Internal Distribution List
 IDP Imminent Danger Pay
 IDT Inactive Duty Training
 IFDTL Internet Forensics Drug Testing Laboratory
 IIADT Incremental Initial Active Duty
 IMA Individual Mobilization Augmentee
 IMM International Mail Manual
 IO Investigating Officer
 IPAC Installation Personnel Administrative Center
 IPP irregular parcels and pieces
 IPP In Progress Payments
 IRO Initial Review Officer
 IRR Individual Ready Reserve
 IRT Integrated Retail Terminal

JCS Joint Chiefs of Staff
JFTR Joint Federal Travel regulations
JMPA Joint Military Postal Activity (Atlantic or Pacific)
JP Joint Publication
JPERSTAT Joint Personnel Status
JPRA Joint Personnel Recovery Agency
JRC Joint Reception Center
JTF Joint Task Force
KVN Key Volunteer Network
IA Individual Augments
LCM Leave and Earnings Statement
LES letter class mail
LOA letter of appreciation
LOD Line of Duty
LOI Letter of Instruction
LSSS Legal Services Support Section
LWAS Leave While Awaiting Separation
MACOM major command
MAGTF Marine Air-Ground Task Force
MAMAS Military Automated Mail Accounting System
MAO mail address only
MARDIV Marine Division
MARFOR Marine Corps Forces
MCB Marine Corps Base
MCC Monitor Command Code
MCCS Marine Corps Community Services
MCCSSS Marine Corps Combat Service Support Schools
MCM Manual for Courts-Martial
MCO Marine Corps Order
MCMEDS Marine Corps Medical Evaluation Disability System
MCMPS Marine Corps Mobilization Processing System
MCP Marine Corps Planning Process
MCPDS Marine Corps Publication Distribution System
MCPEL Marine Corps Publications Electronic Listing
MCWP Marine Corps Warfighting Publication
MCTFS Marine Corps Total Force System
MEF Marine Expeditionary Force
MEU Marine Expeditionary Unit
MEU(SOC) Marine Expeditionary Unit (special operations capable)
MIDAS Military and International Dispatch and Accountability System
MILSTAMP military standard transportation and movement procedure
MIS Manpower Information Systems
MISSA Manpower Information System Support Agency
MISSO Manpower Information System Support Office
MLG Marine Logistics Group
MMSB Manpower Management Support Branch
MO money order
MOB money order business
MOC Manpower Officer Course
MODIS Military Origin Destination Information System
MOID money order identification number
MOJT Managed On the Job Training
MOL Marine Online
MOM military ordinary mail
MOS Military Occupational Specialty
MPC military postal clerk
MPO Military Post Office

MPS Military Postal System
MPSA Military Postal Service Agency
MRImail routing instruction
MRO Marine Reported On
MROMedical Review Officer
MROWS Marine Reserve Order Writing System
MRTM manpower requirements tracking module
MSC Major Subordinate Command
MSE Major Subordinate Element
MSPF Maritime Special Purpose Force
MWR Morale, Welfare and Recreation
NAMALA Navy and Marine Corps Appellate Leave Activity
NATO North Atlantic Treaty Organization
NAVMC Navy and Marine Corps
NCIS Naval Criminal Investigative Service
NDEA Non-DTS Entry Agent
NEONoncombatant Evacuation Operations
NIPRNET nonsecure internet protocol router network
NJP non-judicial punishment
NOK Next of Kin
NSPS National Security Personnel System
NOE Notice of Eligibility
NOK Next of Kin
OccFld occupational field
OCONUS Outside the Continental United States
ODSEOperational Data Storage Enterprise
ODTAOrganizational Defense Travel Administrator
OHA Overseas Housing Allowance
OMM Official Mail Manager
OMPF Official Military Personnel File
OPCON operational control
OPFOROperating Forces
OPLAN operations plan
OPNAV Office of the Chief of Naval Operations
OPORD operations order
OPT Operational Planning Team
OSP outside piece
OPREP Operations Report
OPSEC operations security
OQR Officer Qualification Record
PACPersonnel Administration Center
PAOPublic Affairs Officer
PAR personnel action request
PAS Personnel Administration School
PB USPS Postal bulletin
PC postal clerk
PCA Permanent Change of Assignment
PCR Personnel Casualty Report
PCS Permanent Change of Station
PDRL Permanent Disability Retired List
PDS permanent duty station
PEBPhysical Evaluations Board
PEBD Pay Entry Base Date
PERSTEMPO personnel tempo
PFOPostal Finance Officer
PII Personally Identifiable Information
PLEAD Place Entered Active Duty

PLMS Publications Library Management System
 POC Personnel Officer Course
 POM Postal Operations Manual
 POP Postal Operations Plan
 PNA postal net alert
 PNOK Primary Next of Kin
 PDMRA Post Deployment Mobilization Respite Absence
 PRO proficiency
 PS Postal Service
 PSC Postal Service Center
 PSD Personnel Support Detachment
 PSP Personnel Security Program
 PTAD Permissive Temporary Additional Duty
 PVI postage validation imprinter
 RBE Remain Behind Element
 RC Reserve Component
 RCT Reserve Counterpart Training
 RED Record of Emergency Data
 RFF Request for Forces
 RIDT Rescheduled Inactive Duty Training
 RLO Reserve Liaison Officer
 RPA request for personnel action
 RUC Reporting Unit Code
 RU reporting unit
 S-1 manpower or personnel staff officer
 S-2 intelligence staff officer
 S-3 operations staff officer
 S-4 logistics staff officer
 S-6 communications and information systems staff officer
 SACO Substance Abuse Control
 SDA Special Duty Assignment
 SE Supporting Establishment
 SECNAVINST Secretary of the Navy Instruction
 SG staffing goal
 SGLI Service Member's Group Life Insurance
 SIPRNET secret internet protocol router network
 SITREPS Situation Reports
 SJA Staff Judge Advocate
 SLDCADA Standard Labor Data Collection and Distribution Application
 SMCR Select Marine Corps Reserve
 SNCO Staff Noncommissioned Officer
 SNM Subject Named Marine
 SOP standing operating procedure
 SORTS Status of Resources and Training System
 SPA Secure Personnel Accountability
 SPMAGTF Special-Purpose Marine Air-Ground Task Force
 SRB service record book
 SR service record
 SSBI single-scope background investigation
 SSIC Standard Subject Identification Code
 SSM Single Service Manager
 TACON tactical control
 TAD Temporary Additional Duty
 TDRL Temporary Disability Retired List
 TFSMS Total Force Structured Management System
 TLA temporary lodging allowance
 TMR Timeliness Management Report

TMS Training Management System
TNPQ Temporarily Not Physically Qualified
T/O Table of Organization
TO&E Table of Organization and Equipment
TOECR Table of Organization and Equipment Change Request
TPFDD Time Phased Force Deployment Database
TTC Type of Transaction Code
TTISMM Transit Time Information System Military Mail
UA unauthorized absence
UCMJ Uniform Code of Military Justice
UDMIPS Unit Diary Manpower Integrated Personnel System
UIC Unit Identification Code
ULN Unit Line Number
UMC unit mail clerk
UMR unit mail room
UPB Unit Punishment Book
USMCR United States Marine Corps Reserve
USPS US Postal Service
WMD weapons of mass destruction
WWR Wounded Warrior Regiment
ZIP Zone Improvement Code

GROUND ELECTRONICS MAINTENANCE T&R MANUAL

APPENDIX B

TERMS AND DEFINITIONS

Terms in this glossary are subject to change as applicable orders and directives are revised. Terms established by Marine Corps orders or directives take precedence after definitions found in Joint Publication 1-02, DOD Dictionary of Military and Associated Terms.

A

After Action Review (AAR). 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.

Artillery Electronics. Artillery electronics equipment covers a range of equipment peculiar to the artillery regiment, including artillery ground-based sensors, the meteorological measuring station, and artillery fire control electronic systems.

Cables. Cables include any types of wiring/cabling that transfer signals and/or electricity. These include assault cable, fiber optic (qv.) cable, etc. Field maintenance support for cables covers end-to-end, including the tips/connectors and any portion of the transmission line.

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 (Training) 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 imply 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.

Command and Control (C2) Electronics. C2 electronics equipment includes a wide range of equipment types within the ground inventory that support C2. In many cases, such equipment overlaps with other equipment types such as telecommunications, IT, etc. C2 electronics equipment includes but is not limited to global positioning systems, situational awareness systems (e.g., Blue Force Tracker), common operational picture (COP) systems, operational facility (OPFAC) equipment, and other systems used in conducting C2 and not covered under the other equipment types listed in this manual.

Communication(s) Security (COMSEC). COMSEC equipment is associated with a variety of systems and maintainers support those COMSEC devices associated with the systems they support.

Complex Circuit Cards. Complex circuit cards require miniature/microminiature (2M) repair skills and include surface-mounted components and conductors, the internal conductors of multilayer boards, laminates, flexible flat conductors, and stranded wire.

Condition. The condition describes the training situation or environment under which the training event or task will take place. The condition 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, ammunition, 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.

Depot (Level) Maintenance. Depot level maintenance capabilities include major repairs, overhaul, or complete rebuild of equipment or materiel, components or sub-components, assemblies or sub-assemblies, software, or parts, to include manufacturing, conversion, reclamation, or fabrication of parts. The

intent of this capability is to perform repairs on all supported items, equipment, or materiel of the supply chain through program/product support management efforts.

Depot maintenance actions apply to repairs which require extensive time, specialized tools, equipment, facilities and/or skills competency, and are less expeditious in nature. These repairs may include conducting required modifications, testing, calibrating, reclamation, and conversion to sustain an item, equipment, or materiel throughout its lifecycle, or to extend service-life through established maintenance-related programs.

Refer to MCO 4790.23_ Ground Equipment Maintenance Program.

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. 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 MAGTF commander or his appointee will fill this role, unless authority is delegated to the respective commander of the CE, GCE, ACE, or LCE. 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.

F

Fiber Optic Cable/Line Equipment. Referred to in industry as "optical fiber," fiber optic cable/line equipment is a flexible, transparent fiber made of glass (silica) or plastic, slightly thicker than a human hair. It functions as a waveguide, or "light pipe", to transmit light between the two ends of the fiber. Fiber optic cable/line equipment is a subset of cables (qv.), called out separately due to a requirement for special knowledge and skills, as well as a requirement for entry level training.

Field (Level) Maintenance. Field [level] maintenance is any maintenance that does not require depot [level] maintenance capability and is performed by crew/operators and mechanics/technicians within Marine Corps organizations and activities, and/or by approved commercial/contract sources.

Maintenance tasks performed within the field LOM are categorized as organizational or intermediate. Alignment of tasks within the field LOM is based on supporting/supported relationships and respective capabilities among units. A unit may perform any field maintenance tasks for which it is manned, trained, and equipped. Units are not authorized to conduct maintenance outside of their assigned capabilities.

Per MCWP 3-40.1 with Change 1, Marine Air-Ground Task Force (MAGTF) Command and Control, supporting/supported relationships may be standing/long-term and defined in unit mission statements and supported with capabilities established in T/OE, or assigned for specific operations and supported with task-organized capabilities. Supporting/supported relationships will be planned and executed to align and manage the respective maintenance capabilities among supporting and supported units as effectively as possible within constraints. Flexibility in alignment of maintenance tasks within the supporting/supported relationship framework is required to enable commanders to best align maintenance requirements to capabilities. Supporting commanders may perform maintenance tasks that are within supported units' capabilities, including, but not limited to, overflow maintenance and organizational tasks that must be completed in order for intermediate tasks to be performed on equipment evacuated to supporting units. Supporting and supported unit commanders will coordinate closely to ensure the most effective use of maintenance resources within their respective capabilities, and will incorporate local standard operating procedures to ensure the same.

Refer to MCO 4790.23_ Ground Equipment Maintenance Program.

For the purpose of this T&R manual, field level maintenance refers to maintenance in the intermediate category, codes "F" and "H," as covered in MSGID R 262106Z MAR 13.

Final Inspection. The maintenance activity will perform quality control measures to ensure the equipment is operational, modifications are verified, and all material/labor requirements are debriefed within each respective task. During the final inspection task, all counter readings will be updated.

Force Protection (FORCEPRO) Electronics. Force protection electronics equipment includes the electronic components of modular, scalable force protection and physical security systems including RCIED jamming devices,

interior security equipment (e.g., G-BOSS), tactical security systems and interior/exterior robotics, and similar equipment.

G

Ground Common. Ground common equipment is found in large quantities and/or in a large number of units within the MAGTF.

Ground Radio. Ground Sensor System. Ground sensor system equipment provides all-weather remote monitoring of activity within and near a given objective area. An example of ground sensor system equipment is the Tactical Remote Sensor System (TRSS).

I

Information Technology (IT). Information technology equipment includes computers, routers, printers, plotters, data switching equipment, IP accelerators, and associated equipment used in a variety of platforms.

Initial Inspection. Inspections that include troubleshooting, fault isolation, and part requisitions. This is not to be confused with visual inspection conducted during acceptance inspection task.

Intercommunication Equipment. Intercommunication equipment is any device intended for localized use. Functions may include remote selection of frequencies, selection of operational mode and/or available equipment, etc.

Installation, Operation, and Maintenance (IOM). The operational tasks associated with using equipment. These tasks are performed by the equipment operators, with the maintainers providing technical assistance. Installation refers to the emplacement, configuration, and initialization of equipment for use. Operation refers to the sustained actions of using the equipment. Maintenance refers to the crew/operator tasks associated with restoring equipment to operation.

For the purpose of this T&R manual, crew/operator maintenance, part of the Field level, is covered under IOM events and is not included in Field level maintenance events.

Intelligence-Based Systems. Intelligence-based systems equipment includes the electronics components/items of signals intelligence (SIGINT) equipment (electronic attack and collections equipment) and human intelligence (HUMINT) equipment not associated with force protection (FORCEPRO).

Intermediate (Maintenance Category). Intermediate maintenance is performed by designated activities in direct or general support of using organizations. It includes calibration and repair/replacement of damaged or unserviceable parts, and provides technical assistance, support through a secondary repairable float, and/or contact team support to using organizations. Intermediate maintenance normally includes third and fourth echelon maintenance and in instances when supporting overflow organizational requirements, may include second echelon as well. Refer to MCO 4790.23_ Ground Equipment Maintenance Program.

InterNetwork Device. OSI Layer 2 & 3 devices that allow communication across different kinds of networks

L

Laboratory Standards. Laboratory standards are equipment utilized to take quantitative/qualitative (Q/Q) measurements as a source of accurately known stimuli (signals), or as a decision to accept, reject, adjust, repair, or to replace TMDE being tested or measured.

M

Maintenance. Maintenance involves those actions taken to keep materiel in serviceable condition (preventive maintenance) and actions required to return materiel to serviceable condition (corrective maintenance). Maintenance tasks are grouped by levels of support that determine assignment of maintenance responsibilities.

In the context of this T&R manual, "maintenance" generally refers to the organizational and intermediate maintenance tasks performed by specially trained personnel. Exceptions to this include maintenance tasks associated with organic equipment (crew/operator tasks), technical assistance provided to equipment operators during the IOM of equipment (crew/operator tasks), crew/operator tasks performed by TECHCON personnel on TECHCON equipment, and network maintenance tasks performed by TECHCON personnel. Maintenance is a function of the tactical level of logistics (refer to MCTP 3-40E Maintenance Operations).

Maintenance Administration Section. A maintenance administration (or administrative) section performs functions associated with equipment receipt and transfer, technical data research, tool issue, shop property control, and the recording and reporting of completed maintenance actions within the shop. In large maintenance shops, there may be several personnel in each element of the section. In small shops, one individual may perform all of these functions. Administrative sections are known by many names including Organics, Shop Support, Shipping & Receiving, etc. Refer to MCO 4790.2 FIELD-LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP).

Maintenance Categories. The Department of Defense (DOD) identifies two levels of maintenance - field and depot. The field level is further divided into the "organizational" and "intermediate" maintenance categories. Refer to MCO 4790.23_ Ground Equipment Maintenance Program.

Maintenance Section. The actual performance of maintenance in a maintenance shop is accomplished by the maintenance sections. These sections may be organized in a number of different ways, including function (e.g., PMCS, CM, modification), equipment (e.g., heavy, single sideband, electro-optics), or by commodity (e.g., engineer, ground ordnance, ground electronics, motor transport). Refer to MCO 4790.2 FIELD-LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP).

The maintenance section level events in this T&R manual are constructed around a maintenance section focusing on providing field level maintenance support for specific equipment types of electronics equipment (e.g., a Radio Repair Section performing maintenance on ground radio equipment, vehicle intercommunications equipment, and mechanized vehicle electronics).

Maintenance Shop. A maintenance shop is a maintenance activity providing direct or general support field level maintenance for one or more commodities and one or more equipment types within the supported commodities. The basic

functions and tasks of a maintenance shop are the same, regardless of the shop size or type of maintenance performed. A maintenance shop's organization will vary. In general, it will consist of a shop office/operations section, a maintenance administrative section, a services section, and one or more maintenance sections. Refer to MCTP 3-40E Maintenance Operations and MCO 4790.2 FIELD-LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP).

The maintenance shop level events in this T&R manual are constructed around a shop focusing on providing field level maintenance support for ground electronics equipment, though they are easily adapted for a maintenance shop supporting other commodities or multiple commodities.

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.

Mechanized Vehicle Electronics. Mechanized vehicle communication electronics are comprised of a cadre of C2 systems which intersect all battlefield functions. Communication electronic maintenance responsibilities include items identified as communication assets, ancillary items, and specific wiring to ensure function of said equipment.

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.

Modification. Modification changes the design or assembly characteristics of systems, end items, components, assemblies, subassemblies, or parts. A modification's purpose is to improve equipment functioning, maintainability or reliability (usually issued as a normal modification), or its safety characteristics (typically seen as urgent modifications). For the purpose of this T&R manual, modification also refers to software/firmware upgrades. Modification is a sub-function of maintenance at the tactical level of logistics. Refer to MCTP 3-40E Maintenance Operations.

Non-Standard Equipment (NS-E). (NS-E) is defined as non-expendable equipment that is rapidly acquired and fielded to bridge mission capability gaps to meet urgent warfighter or garrison requirements. NS-E can be assigned any TAMCN commodity designator and will always have a MCSN assigned rather than a NSN/NIIN catalogued within FLIS. If an item has an NSN catalogued in FLIS, it is not considered NS-E. NS-E can be either tactical (military equipment) or non-tactical (general property).

O

Operational Readiness (OR) (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. It may be used in a general sense or to express a level or degree of readiness.

Organizational (Maintenance Category). That maintenance production, scheduled or unscheduled, which is the responsibility of and performed by the using unit on its assigned equipment. Refer to MCO 4790.23_ Ground Equipment Maintenance Program.

P

Power Supply. Power supply equipment supplies electric power to an electrical load and most commonly applies to converters, but also includes inverters, adapters, amplifiers, as well as "green" electric power converters such as solar panels. Power supply equipment may be a standalone device such as the PP-8436/P or it might be a component of an end item such as a computer power supply. Power supply equipment does not include power generation equipment (which is supported by the Utilities occupational field).

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.

Reclamation. Reclamation is action taken to restore condemned, scrapped, abandoned, or damaged materiel, parts, and components. Reclamation actions include repair, refabrication, or renovation. Reclamation is a depot function. Reclamation is a sub-function of maintenance at the tactical level of logistics. Refer to MCTP 3-40E Maintenance Operations.

Recovery and Evacuation. Recovery is the process of retrieving or freeing immobile, inoperative, or abandoned materiel. It includes returning it to operation or taking it to a collection point for repair, evacuation, or disposal. Recovery is the responsibility of the owning unit. Evacuation moves materiel from one combat service support (CSS) maintenance activity to another for repair or disposal. It includes moving equipment between the

owning unit's maintenance site and the supporting combat service support element (CSSE). Evacuation is the responsibility of the combat service support element. Recovery and evacuation is a sub-function of maintenance at the tactical level of logistics. Refer to MCTP 3-40E Maintenance Operations.

Repair. Repair is the return of an item to serviceable condition through correction of a specific failure or unserviceable condition. Repair is a sub-function of maintenance at the tactical level of logistics. Refer to MCTP 3-40E Maintenance Operations.

Requirement. When used as an element of a T&R event condition and standard, a "requirement" covers a range of items. These generally refer to a requirement provided by some higher and/or external authority such as a commanding officer or supported unit, and include things such as maintenance requests, missions, fragmentary orders, warning orders, operations orders, etc. When used in this manner, the requirement establishes the parameters for successful performance, including accuracy, completeness, sequence, timeliness, etc.

When used as an element of a performance step, a "requirement" refers to the desired outcome and the resources required to accomplish the assigned task. Resources include things such as personnel, skill sets, facilities, TMDE, tools, MHE, supply parts, scheduling of support, etc.

S

Satellite Communications (SATCOM). SATCOM equipment includes C, X, Ka, Ku, and L-band systems and associated antennas/dishes.

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).

Services Section. A services section performs functions in support of equipment maintenance; for example, welding, battery shop, inspection, and quality control. In small shops or shops not requiring all of these services, the functions of the services section may be performed by one individual or assigned to other sections. The inspection and quality control functions are required in all shops. This function may be performed by one individual, several individuals, or a team. Refer to MCO 4790.2 FIELD-LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP).

Shop Office/Operations Section. A shop office/operations section manages the overall conduct of maintenance within the shop. This includes assigning personnel within the shop; scheduling maintenance and the orderly flow of equipment requiring maintenance through the shop; ensuring the economic use of maintenance resources, including the proper use of maintenance floats; ensuring that maintenance operations interface with maintenance-related programs; establishing and executing the shop safety program; supervising maintenance training within the shop; and ensuring that proper transactions are submitted. Refer to MCO 4790.2 FIELD-LEVEL MAINTENANCE MANAGEMENT POLICY (FLMMP).

Simulation Training. Simulators provide the additional capability to develop and hone core and core plus skills. The development of simulator training events for appropriate T&R syllabi can help maintain valuable combat resources while reducing training time and cost. 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

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).

Technical Control. Technical control equipment ensures fast, reliable, and secure exchange of information; typically includes distribution frames and associated panels, jacks, and switches for monitoring, test, conditioning, and orderwire equipment; and allows telecommunications systems control personnel to exercise operational control of communications paths and facilities, make quality analyses of communications and communications channels, monitor operations and maintenance functions, recognize and correct deteriorating conditions, restore disrupted communications, provide requested on-call circuits, and take or direct such actions as may be required to provide effective telecommunications services.

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 TEGC 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.

Telecommunications. Telecommunications equipment includes voice gateway routers, voice switching equipment, telephones, call managers, session boundary controllers, etc.

Test, Measurement, and Diagnostic Equipment (TMDE). TMDE is equipment used to take quantitative/qualitative (Q/Q) measurements as a source of accurately known stimuli (signals), or as a decision to accept, reject, adjust, repair, or to replace a device, system module, or component being tested or measured. Supported TMDE is listed in TM-10510-OD/1_.

Testing and Calibration. Testing and calibration are terms that apply to the maintenance of precision instruments. These instruments may be components of larger items, or they may be maintenance test equipment. Testing compares the accuracy of the instrument to an established standard. Calibration is the adjustment of precision instruments that have deviated from their standards. Testing and calibration is a sub-function of maintenance at the tactical level of logistics. Refer to MCTP 3-40E Maintenance Operations.

For the purpose of this T&R manual "calibration" refers to a set of operations, performed in accordance with a definite documented procedure that compares the measurements performed by an instrument to those made by a more accurate instrument or standard, for the purpose of detecting and reporting, or eliminating by adjustment, errors in the instrument tested. Refer to Calibration: *Philosophy in Practice*. (2nd edition, pp. G-4). Glossary. Everett, Wash.: Fluke Corporation.

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.

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.

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.

Unmanned Systems. Unmanned systems include a broad range of remotely operating systems such as robots, unmanned aerial vehicles (UAV), etc. Unmanned systems support is limited to the electronics components and the chassis, and does not include optics and components supported by other occupational fields.

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.

Wireless Mesh Networking Device. Any device that provides a communications network made up of radio nodes organized in a mesh topology.

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REFERENCES

Department of Defense Publications

DISA Circulars/Publications

DoDD 8500.1	Information Assurance (IA)
DoDD 8570.01M	Information Assurance Workforce Improvement Program Incorporating Change 2
DOD-HDBK-263B	Electrostatic Discharge Control Handbook for Protection of Electrical and Electronic Parts, Assemblies and Equipment
DoDI 4151.18	Maintenance of Military Material
DoDI 8523.01	Communication Security
DOD-STD-1686	Electrostatic Discharge Control

Joint Publications

CJCSI 3170.01_	Joint Capabilities Integration and Development System (JCIDS)
CJCSM 6231 (Series)	Manual for Employing Joint Tactical Communications
JCIDS	Manual for the Operation of the Joint Capabilities Integration and Development System

Secretary of the Navy Publications

SECNAVINST 5510.30_	Information and Personnel Security Program
SECNAVINST 5510.36_	Dept of the Navy Information and Personnel Security Program Regulations

Marine Corps Doctrinal Publications (MCDP)

Short Title	Long title
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Marine Corps Warfighting Publications (MCWP)

MCWP 3-40.3	MAGTF Communications System
MCWP 4-1	Logistics Operations
MCWP 4-11	Tactical-Level Logistics
MCWP 4-11.4	Maintenance Operations
MCWP 5-1	Marine Corps Planning Process (MCPPE)

Marine Corps Reference Publications (MCRP)

MCRP 3-0A	Unit Training Management Guide
MCRP 3-0B	How to Conduct Training
MCRP 4-11.3G	Unit Embarkation Handbook

Marine Corps Orders (MCO)

MCO 1200.17_	Military Occupational Specialty Manual (MOS Manual)
MCO 1553.1_	The Marine Corps Training and Education System
MCO 1553.3_	Unit Training Management (UTM) Program
MCO 1560.25_	Marine Corps Lifelong Learning Program
MCO 2281.1_	Electronic Key Management System (EKMS) Policy
MCO 2410.2_	Electromagnetic Environmental Effects (E3) Control Program
MCO 3000.11_	Ground Equipment Condition and Supply Materiel Readiness Reporting (MRR) Policy

MCO 3000.18_	Marine Corps Force Deployment Planning and Execution (FDP&E) Manual
MCO 3500.27_	Operational Risk Management (ORM)
MCO 3504.1_	Marine Corps Lessons Learned Program (MCCLP) and the Marine Corps Center for Lessons Learned (MCCLL)
MCO 3900.15_	Marine Corps Expeditionary Force Development System (EFDS)
MCO 4000.51_	Automatic Identification Technology (AIT)
MCO 4000.57_	Marine Corps Total Life Cycle Management (TLCM) of Ground Weapons Equipment and Material
MCO 4000.58_	Marine Corps Logistics Command
MCO 4081.2_	Marine Corps Performance Based Logistics (PBL)
MCO 4105.2_	Marine Corps Warranty Program
MCO 4200.33_	Contractor Logistics Support (CLS) for Ground Equipment, Weapon Systems, Munitions, and Information Systems
MCO 4400.113_	Defense Logistics Agency Maintenance Instructions or Technical Maintenance Standards
MCO 4400.16_	Uniform Material Movement and Issue Priority System (UMMIPS)
MCO 4631.10_	Operational Support Airlift Management
MCO 4733.1_	Marine Corps Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
MCO 4790.18_	Corrosion Prevention and Control (CPAC) Program
MCO 4855.10_	Product Quality Deficiency Report (PQDR)
MCO 5040.6_	Marine Corps Readiness Inspections and Assessments
MCO 5215.1_	Marine Corps Directives Management Program
MCO 5215.16_	Interservicing of Technical Manuals and Related Technology
MCO 5311.1_	Total Force Structure Process (TFSP)
MCO P3500.72_	Marine Corps Ground Training and Readiness (T&R) Program
MCO P4030.19_	Preparing Hazardous Materials for Military Air Shipments
MCO 4400.150_	Consumer Level Supply Policy Manual
MCO 4400.151_	Intermediate-Level Supply Management Policy Manual
MCO 4400.160_	Field Supply and Maintenance Analysis Office Program (FSMAO)
MCO 4400.82_	Regulated/Controlled Item Management Manual
MCO 4790.2_	Field-Level Maintenance Management Policy (FLMMP)
MCO 4790.24	Equipment Lifecycle Maintenance Program (ELMP)
MCO 4790.25	Ground Equipment Maintenance Program
MCO P5090.2_	Environmental Compliance and Protection Manual
MCO P5215.17_	The Marine Corps Technical Publications System
MCO P7100.8_	Field Budget Guidance Manual

Navy and Marine Corps Directives (NAVMC)

NAVMC 1553.1_	Systems Approach to Training (SAT) Users Guide
NAVMC 2761	Catalog of Publications
NAVMC 3500.6_	Ground Electronics Maintenance Training and Readiness Manual

Technical Publications

Applicable technical references*

TI 10793-ID_	AN/USM-674 Test Station Gold Disk and Silver Disk Miniature/Microminiature (2M)/Module Test and Repair Program
TI 4400-15/1_	Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
TI 4733 Series	Calibration and TMDE Requirements and Programs
TI 4733-15/13	Metrology Requirements List (METRL)
TI 4733-15/6_	Test Measurement and Diagnostic Equipment (TMDE) Calibration and Maintenance Support
TI 4733-15/7_	Procedural Publication Index for Marine Corps Test, Measurement, and Diagnostic Equipment Calibration and Maintenance Program
TI 4733-15/9_	Radiac Instrument Calibration Requirements
TI 4733-35/24_	United States Marine Corps Metrology Calibration Quality Assurance Program
TI 4733-35/5_	Calibration Equipment Recommendations for the Marine Corps Calibration Program
TI 4733-ID/8_	Marine Corps Transfer Standards Program
TI 4733-OD/1_	Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
TI 4733-OD/10_	Special Calibration of Torque Tools
TI 4733-OD/11_	Infantry Weapons Gage Calibration Program (IWGCP)
TI 4733-OD/21_	Survey Instrument Calibration Program (SICP)
TI 5820-25/22_	Electromagnetic Environmental Effects (E3) Procedures for Installation of Communication Equipment on Marine Corps Platforms
TI-4733-35/23_	Navy and Marine Corps Calibration Laboratory Audit/Certification Manual
TM 09810A-50/5_	MTR Gold Disk Test Routine Development Requirements Manual
TM 10209-10/1_	Use and Care of Hand Tools and Measuring Tools
TM 10510-OD/1_	General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Support Items & Tool Kits)
TM 10664A-CD	Operator and Organizational Maintenance of Digital Technical Control Facility
TM 10793A-OD/1_	Module Test & Repair Tracking System (Marines) User's Guide
TM 10812A-10/2	User's Manual for OneTouch Series II Network Assistant
TM 10986B-OI/1	Getting Started Guide for OptiView Series II Integrated Network Analyzer
TM 10986B-OI/2	Help Guide for OptiView Series II Integrated Network Analyzer
TM 11366A-OD/1	Getting Started Guide for Network Analyzer (MODEL ES-700)
TM 2000-OD/2_	Principal Technical Characteristics of U.S. Marine Corps Communication-Electronics Equipment
TM 4700-15/1_	Ground Equipment Record Procedures
TM 4795-34/2_	Corrosion Prevention and Control, Rustproofing and Underbody Coating Procedures for Tactical Vehicles, Trailers, and Engineering Equipment
TM 4795-OR/1_	Organizational Corrosion Prevention and Control Procedures for USMC Ground Combat Equipment
TM 5411-14&P/2	Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) 10-Foot Rigid General Purpose

	Shelter Operation and Maintenance Instructions with Repair Parts List
TM 5411-14/1_	Marine Corps Expeditionary Shelter System (MCESS)(Small Shelter Family) Operation and Maintenance Instructions
TM 5895-45/1_	Standard Maintenance Practices
	Miniature/Microminiature (2M) Electronic Assembly
TM 9406-15_	Repair Organizational/Intermediate/Depot Level
	Grounding Procedures for Electromagnetic Interference Control and Safety
TM 9999-15/1_	Electro-Static Discharge (ESD) Awareness
TM 9999-15/2_	Electro-static Discharge (ESD) Management

User's Manuals

ST-90	Shorttrak 90 User's Manual
UM 4000-125	GCSS-MC User's Manual
UM 4400-60	Materiel Returns Program
UM PLMS	User's Manual, Publication Library Management System

Miscellaneous

CAL and LUBF	Consolidated Account Listing and Loaded Unit Balance File
CMR	Consolidated Memorandum Receipt
CNSS 4000	Communication Security (COMSEC) Maintenance and Maintenance Training
Contracted Logistics Support (CLS)	Statement of Requirements/Objectives/ Work (SOR/SOO/SOW)
Contracting Officer's Representative (COR)	Duties & Responsibilities Guidebook(s)
Cut Sheets	Programming Cut Sheets
DLA Customer Assistance Handbook	
EKMS-1 (series)	EKMS Policy and Procedures for Navy EKMS Tiers 2 & 3
EKMS-5A	Cryptographic Equipment Information/Guidance Manual
FEDLOG	Federal Logistic Data
FM 11-55	Mobile Subscriber Equipment (MSE) Operations
FM 24-16	Communication-Electronic Operations Orders, Records and Reports
FMFRP 4-14	Field Grounding Procedures for Computers and Generators
Maintenance Float Catalog	
MAL	Unit Mechanized Allowance List (MAL)
MARCORSYSCOM	MARCORSYSCOM Quarterly Firmware Configuration Management AMHS Message
MCBUL 3000	Marine Corps Automated Readiness Evaluation System (MARES) Equipment
MCBUL 5600	Marine Corps Doctrinal Publication Status
MCCLL	Marine Corps Center for Lessons Learned web site http://www.mccll.usmc.mil
MIL-STD-1686B	Electro-Static Discharge Control Program for Protection of Electrical and Electronic Parts
MIL-STD-188-124A	Military Standard for Grounding
MMSOP	Maintenance Management Standing Operating Procedures
MOS Roadmap	Military Occupational Specialty (MOS) Roadmaps
MPS Load Plan	
MSGID 141844Z Aug 12	(NS-E)
N6283300014	Navy Electricity and Electronics Training Series (NEETS)

NAVAIR 17-35	FR-06 Facility Requirements
NAVSEA ST900-HN-GPT-020	Technical Reference and Operation Manual for PROTRACK I Model 20A/PROTRACK Scanner I
NSTISSI 4000	COMSEC Maintenance and Maintenance Training Policy (NSA)
Operations Order Annex K	
OPNAVINST 2221.3_	Communications Security (COMSEC) Maintenance and Maintenance Training
OpOrd	Operational Order
PLMS V3 UG	Publication Library Management System Version 3 Users Guide
POM_	Program Objective Memorandum (POM)
SAT Manual	Systems Approach to Training Manual
SDS	Safety Data Sheets
SL 1-2/3	Index of Authorized Publications in Stock
T/O&E	Table of Organization and Equipment
TECOMO 1500.1	Military Occupational Specialty Roadmaps
TEEP	Training, Exercise and Evaluation Plan
Unit SOP	Unit's Standing Operating Procedures
Unit Training Plan	
Web Tools	Web Based Maintenance Management Applications

* "applicable technical references" refers to any technical references that pertain to the equipment under maintenance, the equipment used to perform maintenance actions, and the techniques and procedures utilized in the performance of maintenance actions. Implicit in this is the requirement for maintainers to identify the references required to perform the maintenance actions.

GROUND ELECTRONICS MAINTENANCE T&R MANUAL

APPENDIX D

MAINTENANCE SHOP ORGANIZATION

Maintenance shop organization is covered in MCTP 3-40E Maintenance Operations Chapter 4 Maintenance Organizations and MCO 4790.2_ Field-Level Maintenance Management Policy (FLMMP) Appendix E Shop Administration Procedures.

A unit's organization for maintenance is dependent on the unit's T/O. The T/O provides the resources and the structure; however, the actual arrangement of personnel, equipment, and other resources is dependent upon the mission, situation, facilities, terrain, and other circumstances. The alternative organizations are central shop, contact teams, task organizations, or a mixture of these.

A central shop maintenance shop organization will vary. In general, it will consist of a shop office/operations section, administrative section, services section, and a number of maintenance sections. An issue point is often included in a central shop. A basic central shop is depicted in figure D-1.

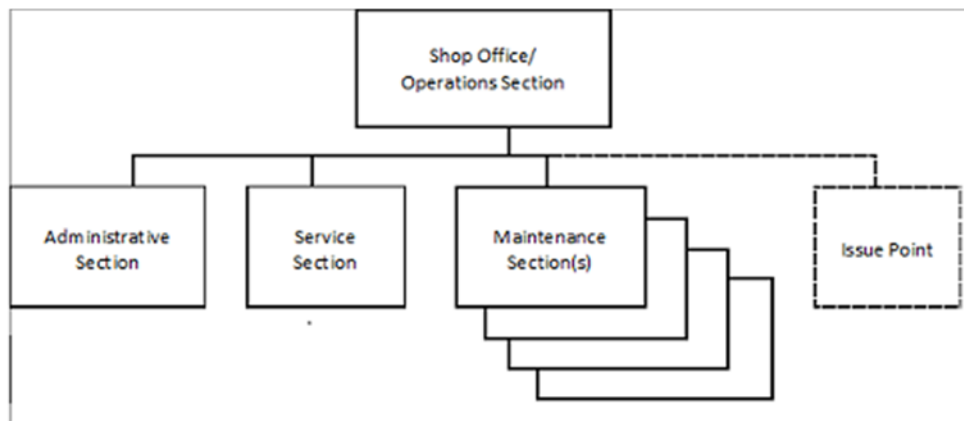


Figure D-1

Some of the sections may be consolidated and/or performed functionally rather than as discrete organizational elements. For example, quality control, a function of the services section, may be performed within maintenance sections.

A maintenance shop may range in size from a few Marines (e.g., the Electronics Maintenance Section within a Marine Wing Support Squadron) up to a battalion (e.g., Maintenance Battalion).

Shop Office/Operations Section

A shop office manages the overall conduct of maintenance within the shop. This includes, but is not limited to:

- recommending personnel assignment

- scheduling maintenance
- ensuring that maintenance operations interface with maintenance-related programs
- ensuring the economic use of maintenance resources
- supervising maintenance training within the shop
- ensuring that proper transactions are submitted into the maintenance automated information system for maintenance actions completed and changes in work order status

A shop office/operations section will include a maintenance chief and, if large enough, a maintenance officer. Additional Marines may be included depending upon the size of the maintenance shop and other factors.

Administrative Section

The administrative section performs functions associated with equipment receipt and transfer, technical data research, tool issue, shop property control, and the recording and reporting of completed maintenance actions within the shop. An administrative section can range from one Marine in small shops to several Marines in larger shops.

Services Section

A services section performs functions in support of equipment maintenance; for example, welding, battery shop service, inspection, quality control.

Often, elements of the shop office/operations section, administrative section, and services section may be consolidated into a single entity such as a shop support section.

Issue Point

The issue point is not an organic element of the shop. The issue point may be internal or external to the shop or a central issue point serving a major command or geographical location.

Maintenance Sections

The actual performance of maintenance is accomplished by maintenance sections. These sections may be organized in a number of different ways, including, but not limited to:

- by function (e.g., repair, modification)
- by equipment (e.g., ground radio, telecommunications)

A maintenance section can range from one or two Marines in small shops to a dozen or more Marines in larger shops.

In addition, while the shop office/operations section, administrative section, and services section perform their functions with regard to the entire shop, each maintenance section may perform elements of those functions with regard to the maintenance performed within the section. For example, a maintenance section might maintain a publications library that is a location of the main shop publications library.

A maintenance section will include a section chief and maintainers. If large enough, a maintenance section may also include a maintenance officer.

T&R Event Structure

The structure of the T&R events in this manual is based on a central shop organization. The "maintenance shop" described in this manual would be the largest unit at which all maintenance performed is on the equipment types supported by occupational field 2800 Marines. The "maintenance sections" described in this manual would each perform maintenance on one or more of the equipment types listed in this manual. The ground electronics maintenance shop would support all of the equipment types that are either organic to the unit (if a using unit) or organic to the units supported by the maintenance shop (if a supporting unit). For example, a radio repair section might support ground equipment, ground vehicle intercommunications equipment, and ground common satellite communications equipment. Refer to Figure D-2 for a depiction of the basic ground electronics maintenance shop around which the T&R events in this manual are structured.

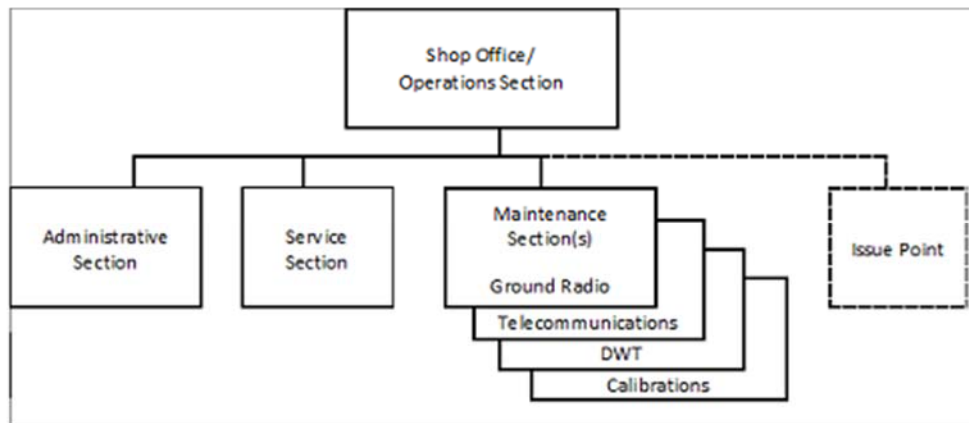


Figure D-2

The events in this manual apply equally well to the other types of maintenance organizations, including maintenance shops where multiple commodities are supported. In such cases, the shop office/operations section, administrative section, and services section would support multiple commodities and ground electronics maintenance might be performed within one maintenance section. Refer to Figure D-3 for a depiction of a multiple-commodity maintenance shop.

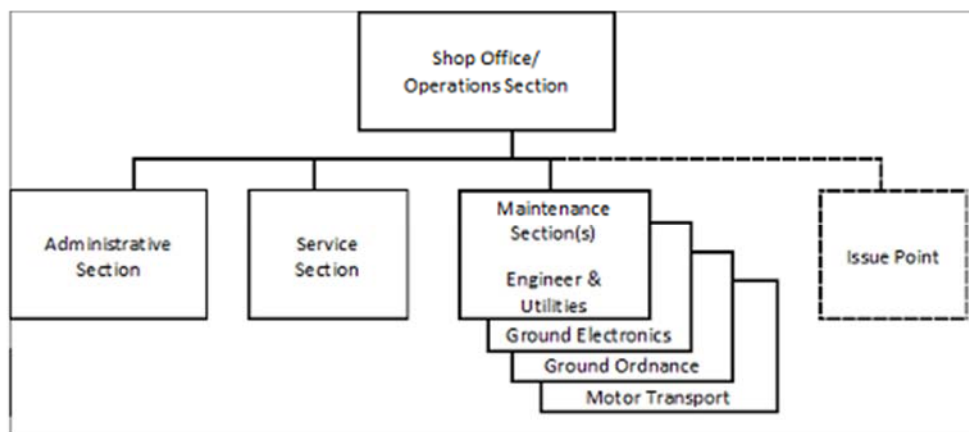


Figure D-3

The naming conventions for sections will vary from shop to shop. In cases where an equipment type does not apply, the relevant individual and collective events may be waived. For example, most ground electronics maintenance shops have no requirement to support TMDE and artillery electronics equipment, so the relevant collective and individual T&R events for those equipment types are waived for the purposes of training and readiness reporting.