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From: Commandant of the Marine Corps
To: Distribution List

Subj: OCCUPATIONAL FIELD 2800 GROUND ELECTRONICS MAINTENANCE TRAINING AND READINESS MANUAL, (SHORT TITLE: 2800 GROUND T&R MANUAL)

Ref: (a) MCO P3500.72A
(b) MCO 1553.3A
(c) MCO 3400.3F
(d) MCO 3500.27A
(e) MCRP 3-0A
(f) MCRP 3-0B
(g) MCO 1553.2B

1. Purpose. Per reference (a), this T&R Manual establishes Individual Training Standards (ITS) for required events for standardization of training for Marines assigned within the 2800 Military Occupational Specialty (MOS). Additionally, it provides tasking for formal schools preparing personnel for service in the Marine Corps. This NAVMC supersedes NAVMC 3500.6, Occupational Field 2800 Ground Electronics Maintenance Training and Readiness Manual.

2. Scope

a. Per reference (b), commanders will conduct an internal assessment of the individual Marine's MOS proficiency and develop long-, mid-, and short-range training plans to sustain this proficiency. Training plans will incorporate events to standardize training and provide objective assessment of progress toward attaining individual MOS proficiency. Commanders will keep records at the individual level to record training achievements, identify training gaps, and document objective assessments of readiness associated with training Marines. Commanders will use reference (c) to incorporate nuclear, biological, and chemical defense training into training plans, and reference (d) to integrate operational risk management. References (e) and (f) provide amplifying information for effective planning and management of training within the unit.

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

3. Information. CG, TECOM will update this T&R Manual as necessary to provide current and relevant training standards to commanders, and to ensure a current ITS is available for use. All questions pertaining to the Marine Corps Ground T&R Program and Unit Training Management should be directed to: Commanding General, TECOM (Ground Training Branch C 469), 1019 Elliot Road, Quantico, VA 22134.

4. Command. This manual is applicable to the Marine Corps Total Force.

5. Certification. Reviewed and approved this date.

M. G. [illegible]
By direction

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LOCATOR SHEET

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RECORD OF CHANGES

Log completed change action as directed.

Change Number	Date of Change	Date Entered	Signature of Person Incorporated Change

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CHAPTER 1

OVERVIEW

1000. INTRODUCTION

1. The T&R Program is the Marine Corps' primary tool for planning, conducting and evaluating training and assessing training readiness. Subject matter experts (SMEs) from the operating forces developed core capability Mission Essential Task Lists (METLs) for ground communities derived from the Marine Corps Task List (MCTL). T&R Manuals are built around these METLs and all events contained in T&R Manuals relate directly to this METL. This comprehensive T&R Program will help to ensure the Marine Corps continues to improve its combat readiness by training more efficiently and effectively. Ultimately, this will enhance the Marine Corps' ability to accomplish real-world missions.

2. The T&R Manual contains the individual and collective training requirements to prepare units to accomplish their combat mission. The T&R Manual is not intended to be an encyclopedia that contains every minute detail of how to accomplish training. Instead, it identifies the minimum standards that Marines must be able to perform in combat. The T&R Manual is a fundamental tool for commanders to build and maintain unit combat readiness. Using this tool, leaders can construct and execute an effective training plan that supports the unit's METL. More detailed information on the Marine Corps Ground T&R Program is found in reference (a).

1001. UNIT TRAINING

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

2. Commanders will ensure that all tactical training is focused on their combat mission. The T&R Manual is a tool to help develop the unit's training plan. In most cases, unit training should focus on achieving unit proficiency in the core capabilities METL. However, commanders will adjust their training focus to support METLs associated with a major OPLAN/CONPLAN or named operation as designated by their higher commander and reported accordingly in the Defense Readiness Reporting System (DRRS). Tactical

training will support the METL in use by the commander and be tailored to meet T&R standards. Commanders at all levels are responsible for effective combat training. The conduct of training in a professional manner consistent with Marine Corps standards cannot be over emphasized.

3. Commanders will provide personnel the opportunity to attend formal and operational level courses of instruction as required by this Manual. Attendance at all formal courses must enhance the warfighting capabilities of the unit as determined by the unit commander.

1002. UNIT TRAINING MANAGEMENT

1. Unit Training Management (UTM) is the application of the Systems Approach to Training (SAT) and the Marine Corps Training Principles. This is accomplished in a manner that maximizes training results and focuses the training priorities of the unit in preparation for the conduct of its wartime mission.

2. UTM techniques, described in references (b) and (e), provide commanders with the requisite tools and techniques to analyze, design, develop, implement, and evaluate the training of their unit. The Marine Corps Training Principles, explained in reference (b), provide sound and proven direction and are flexible enough to accommodate the demands of local conditions. These principles are not inclusive, nor do they guarantee success. They are guides that commanders can use to manage unit-training programs. The Marine Corps training principles are:

- Train as you fight
- Make commanders responsible for training
- Use standards-based training
- Use performance-oriented training
- Use mission-oriented training
- Train the MAGTF to fight as a combined arms team
- Train to sustain proficiency
- Train to challenge

3. To maintain an efficient and effective training program, leaders at every level must understand and implement UTM. Guidance for UTM and the process for establishing effective programs are contained in references (a) through (g).

1003. SUSTAINMENT AND EVALUATION OF TRAINING

1. The evaluation of training is necessary to properly prepare Marines for combat. Evaluations are either formal or informal, and performed by members of the unit (internal evaluation) or from an external command (external evaluation).

2. Marines are expected to maintain proficiency in the training events for their MOS at the appropriate grade or billet to which assigned. Leaders are responsible for recording the training achievements of their Marines. Whether it involves individual or collective training events, they must ensure proficiency is sustained by requiring retraining of each event at or

before expiration of the designated sustainment interval. Performance of the training event, however, is not sufficient to ensure combat readiness. Leaders at all levels must evaluate the performance of their Marines and the unit as they complete training events, and only record successful accomplishment of training based upon the evaluation. The goal of evaluation is to ensure that correct methods are employed to achieve the desired standard, or the Marines understand how they need to improve in order to attain the standard. Leaders must determine whether credit for completing a training event is recorded if the standard was not achieved. While successful accomplishment is desired, debriefing of errors can result in successful learning that will allow ethical recording of training event completion. Evaluation is a continuous process that is integral to training management and is conducted by leaders at every level and during all phases of planning and the conduct of training. To ensure training is efficient and effective, evaluation is an integral part of the training plan. Ultimately, leaders remain responsible for determining if the training was effective.

3. The purpose of formal and informal evaluation is to provide commanders with a process to determine a unit's/Marine's proficiency in the tasks that must be performed in combat. Informal evaluations are conducted during every training evolution. Formal evaluations are often scenario-based, focused on the unit's METs, based on collective training standards, and usually conducted during higher-level collective events. References (a) and (f) provide further guidance on the conduct of informal and formal evaluations using the Marine Corps Ground T&R Program.

1004. ORGANIZATION

1. T&R Manuals are organized in one of two methods: unit-based or community-based. Unit-based T&R Manuals are written to support a type of unit (Infantry, Artillery, Tanks, etc.) and contain both collective and individual training standards. Community-based are written to support an Occupational Field, a group of related Military Occupational Specialties (MOSs), or billets within an organization (EOD, NBC, Intel, etc.), and usually only contain individual training standards. T&R Manuals are comprised of chapters that contain unit METs, collective training standards (CTS), and individual training standards (ITS) for each MOS, billet, etc.

2. The Ground Electronics Maintenance T&R Manual is a community-based manual comprised of 20 chapters.

1005. T&R EVENT CODING

1. T&R events are coded for ease of reference. Each event has a 4-4-4-digit identifier. The first four digits are referred to as a "community" and represent the unit type or occupation (TANK, TOW, 1802, etc.). The second four digits represent the functional or duty area (TAC, CMDC, GNRY, etc.). The last four digits represent the level and sequence of the event.

2. The T&R levels are illustrated in Figure 1. An example of the T&R coding used in this Manual is shown in Figure 2.

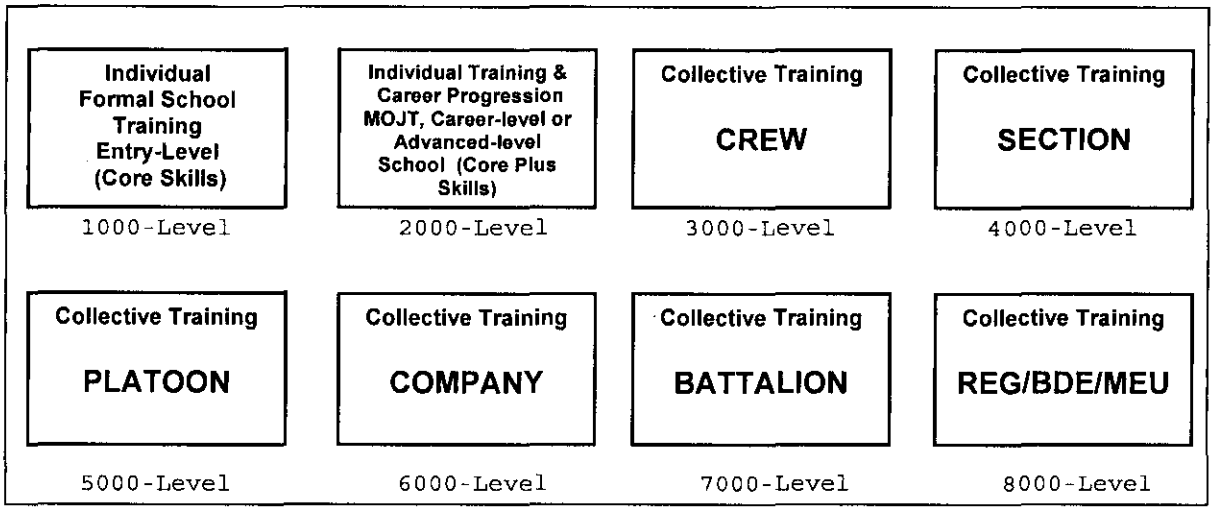

Figure 1: T&R Event Levels

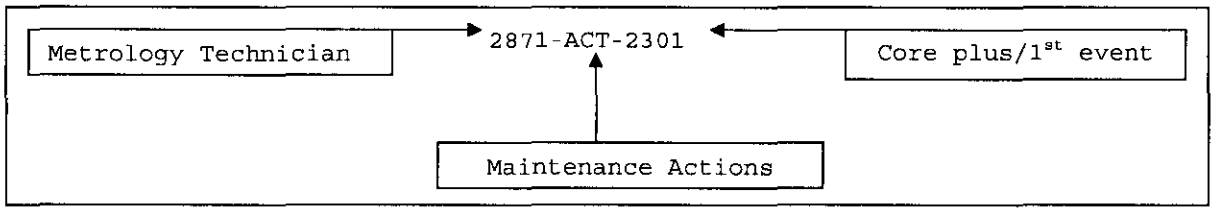

Figure 2: T&R Event Coding

1006. COMBAT READINESS PERCENTAGE

1. The Marine Corps Ground T&R Program includes processes to assess readiness of units and individual Marines. Every unit in the Marine Corps maintains a basic level of readiness based on the training and experience of the Marines in the unit. Even units that never trained together are capable of accomplishing some portion of their missions. Combat readiness assessment does not associate a quantitative value for this baseline of readiness, but uses a "Combat Readiness Percentage", as a method to provide a concise descriptor of the recent training accomplishments of units and Marines.

2. Combat Readiness Percentage (CRP) is the percentage of required training events that a unit or Marine accomplishes within specified sustainment intervals.

3. In unit-based T&R Manuals, unit combat readiness is assessed as a percentage of the successfully completed and current (within sustainment interval) key training events called "Evaluation-Coded" (E-Coded) Events. E-Coded Events and unit CRP calculation are described in follow-on paragraphs. CRP achieved through the completion of E-Coded Events is directly relevant to readiness assessment in DRRS.

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

1007. EVALUATION-CODED (E-CODED) EVENTS

1. Unit-type T&R Manuals can contain numerous unit events, some for the whole unit and others for integral parts that serve as building blocks for training. To simplify training management and readiness assessment, only collective events that are critical components of a mission essential task (MET), or key indicators of a unit's readiness, are used to generate CRP for a MET. These critical or key events are designated in the T&R Manual as Evaluation-Coded (E-Coded) events. Formal evaluation of unit performance in these events is recommended because of their value in assessing combat readiness. Only E-Coded events are used to calculate CRP for each MET.

2. The use of a METL-based training program allows the commander discretion in training. This makes the T&R Manual a training tool rather than a prescriptive checklist.

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. Using the battalion-based (unit) model, the battalion (7000-level) has collective events that directly support a MET on the METL. These collective events are E-Coded and the only events that contribute to unit CRP. This is done to assist commanders in prioritizing the training toward the METL, taking into account resource, time, and personnel constraints.

2. Unit CRP increases after the completion of E-Coded events. The number of E-Coded events for the MET determines the value of each E-Coded event. For example, if there are 4 E-Coded events for a MET, each is worth 25% of MET CRP. MET CRP is calculated by adding the percentage of each completed and current (within sustainment interval) E-Coded training event. The percentage for each MET is calculated the same way and all are added together and divided by the number of METS to determine unit CRP. For ease of calculation, we will say that each MET has 4 E-Coded events, each contributing 25% towards the completion of the MET. If the unit has completed and is current on three of the four E-Coded events for a given MET, then they have completed 75% of the MET. The CRP for each MET is added together and divided by the number of METS to get unit CRP; unit CRP is the average of MET CRP.

For Example:

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

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

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

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

1009 T&R EVENT COMPOSITION

1. This section explains each of the components of a T&R event. These items are included in all events in each T&R Manual.

a. Event Code (see Sect 1006). The event code is a 4-4-4 character set. For individual training events, the first 4 characters indicate the occupational function. The second 4 characters indicate functional area (TAC, CBTS, VOPS, etc.). The third 4 characters are simply a numerical designator for the event.

b. Event Title. The event title is the name of the event.

c. E-Coded. This is a "yes/no" category to indicate whether or not the event is E-Coded. If yes, the event contributes toward the CRP of the associated MET. The value of each E-Coded event is based on number of E-Coded events for that MET. Refer to paragraph 1008 for detailed explanation of E-Coded events.

d. Supported MET(s). List all METs that are supported by the training event.

e. Sustainment Interval. This is the period, expressed in number of months, between evaluation or retraining requirements. Skills and capabilities acquired through the accomplishment of training events are refreshed at pre-determined intervals. It is essential that these intervals are adhered to in order to ensure Marines maintain proficiency.

f. Billet. Individual training events may contain a list of billets within the community that are responsible for performing that event. This ensures that the billets expected tasks are clearly articulated and a Marine's readiness to perform in that billet is measured.

g. Grade. Each individual training event will list the rank(s) at which Marines are required to learn and sustain the training event.

h. Initial Training Setting. For Individual T&R Events only, this specifies the location for initial instruction of the training event in one of three categories (formal school, managed on-the-job training, distance

learning). Regardless of the specified Initial Training Setting, any T&R event may be introduced and evaluated during managed on-the-job training.

(1) "FORMAL" - When the Initial Training Setting of an event is identified as "FORMAL" (formal school), the appropriate formal school or training detachment is required to provide initial training in the event. Conversely, formal schools and training detachments are not authorized to provide training in events designated as Initial Training Setting "MOJT" or "DL." Since the duration of formal school training must be constrained to optimize Operating Forces' manning, this element provides the mechanism for Operating Forces' prioritization of training requirements for both entry-level (1000-level) and career-level (2000-level) T&R Events. For formal schools and training detachments, this element defines the requirements for content of courses.

(2) "DL" - Identifies the training event as a candidate for initial training via a Distance Learning product (correspondence course or MarineNet course).

(3) "MOJT" - Events specified for Managed On-the-Job Training are to be introduced to Marines, and evaluated, as part of training within a unit by supervisory personnel.

i. Event Description. Provide a description of the event purpose, objectives, goals, and requirements. It is a general description of an action requiring learned skills and knowledge (e.g. Camouflage the M1A1 Tank).

j. Condition. Describe the condition(s), under which tasks are performed. Conditions are based on a "real world" operational environment. They indicate what is provided (equipment, materials, manuals, aids, etc.), environmental constraints, conditions under which the task is performed, and any specific cues or indicators to which the performer must respond. When resources or safety requirements limit the conditions, this is stated.

k. Standard. The standard indicates the basis for judging 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 is strictly adhered to. The standard for collective events is general, describing the desired end-state or purpose of the event. While the standard for individual events specifically describe to what proficiency level in terms of accuracy, speed, sequencing, quality of performance, adherence to procedural guidelines, etc., the event is accomplished.

l. Event Components. Describe the actions composing the event and help the user determine what must be accomplished and to properly plan for the event.

m. 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.

n. Chained Events. Collective T&R events are supported by lower-level collective and individual T&R events. This enables unit leaders to effectively identify subordinate T&R events that ultimately support specific mission essential tasks. When the accomplishment of any upper-level events, by their nature, result in the performance of certain subordinate and related events, the events are "chained." The completion of chained events will update sustainment interval credit (and CRP for E-Coded events) for the related subordinate level events.

o. Related Events. Provide a list of all Individual Training Standards that support the event.

p. References. The training references are utilized to determine task performance steps, grading criteria, and ensure standardization of training procedures. They assist the trainee in satisfying the performance standards, or the trainer in evaluating the effectiveness of task completion. References are also important to the development of detailed training plans.

q. Distance Learning Products (IMI, CBT, MCI, etc.). Include this component when the event can be taught via one of these media methods vice attending a formal course of instruction or receiving MOJT.

r. Support Requirements. This is a list of the external and internal support the unit and Marines will need to complete the event. The list includes, but is not limited to:

- Range(s)/Training Area
- Ordnance
- Equipment
- Materials
- Other Units/Personnel
- Other Support Requirements

s. Miscellaneous. Provide any additional information that assists in the planning and execution of the event. Miscellaneous information may include, but is not limited to:

- Admin Instructions
- Special Personnel Certifications
- Equipment Operating Hours
- Road Miles

2. Community-based T&R manuals have several additional components not found in unit-based T&R manuals. These additions do not apply to this T&R Manual.

1010. CBRNE TRAINING

1. All personnel assigned to the operating force must be trained in chemical, biological, radiological, nuclear, and explosive incident defense (CBRNE), 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 CBRNE attacks. Basic operating standards are those that the

individual, and collectively the unit, must perform to continue operations in a CBRNE environment.

2. In order to develop and maintain the ability to operate in an CBRNE environment, CBRNE training is an integral part of the training plan and events in this T&R Manual. Units should train under CBRNE conditions whenever possible. Per reference (c), all units must be capable of accomplishing their assigned mission in a contaminated environment.

1011. NIGHT TRAINING

1. While it is understood that all personnel and units of the operating force are capable of performing their assigned mission in "every climate and place," current doctrine emphasizes the requirement to perform assigned missions at night and during periods of limited visibility. Basic skills are significantly more difficult when visibility is limited.

2. To ensure units are capable of accomplishing their mission they must train under the conditions of limited visibility. Units should strive to conduct all events in this T&R Manual during both day and night/limited visibility conditions. When there is limited training time available, night training should take precedence over daylight training, contingent on individual, crew, and unit proficiency.

1012. OPERATIONAL RISK MANAGEMENT (ORM)

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

2. Commanders, leaders, maintainers, planners, and schedulers will integrate risk assessment in the decision-making process and implement hazard controls to reduce risk to acceptable levels. Applying the ORM process will reduce mishaps, lower costs, and provide for more efficient use of resources. ORM assists the commander in conserving lives and resources and avoiding unnecessary risk, making an informed decision to implement a course of action (COA), identifying feasible and effective control measures where specific measures do not exist, and providing reasonable alternatives for mission accomplishment. Most importantly, ORM assists the commander in determining the balance between training realism and unnecessary risks in training, the impact of training operations on the environment, and the adjustment of training plans to fit the level of proficiency and experience of Sailors/Marines and leaders. Further guidance for ORM is found in references (b) and (d).

1013. APPLICATION OF SIMULATION

1. Simulations/Simulators and other training devices shall be used when they are capable of effectively and economically supplementing training on the

identified training task. Particular emphasis shall be placed on simulators that provide training that might be limited by safety considerations or constraints on training space, time, or other resources. When deciding on simulation issues, the primary consideration shall be improving the quality of training and consequently the state of readiness. Potential savings in operating and support costs normally shall be an important secondary consideration.

2. Each training event contains information relating to the applicability of simulation. If simulator training applies to the event, then the applicable simulator(s) is/are listed in the "Simulation" section and the CRP for simulation training is given. This simulation training can either be used in place of live training, at the reduced CRP indicated, or can be used as a precursor training for the live event, i.e., weapons simulators, convoy trainers, observed fire trainers, etc. It is recommended that tasks be performed by simulation prior to being performed in a live-fire environment. However, in the case where simulation is used as a precursor for the live event, then the unit will receive credit for the live event CRP only. If a tactical situation develops that precludes performing the live event, the unit would then receive credit for the simulation CRP.

1014. MARINE CORPS GROUND T&R PROGRAM

1. The Marine Corps Ground T&R Program continues to evolve. The vision for Ground T&R Program is to publish a T&R Manual for every readiness-reporting unit so that core capability METs are clearly defined with supporting collective training standards, and to publish community-based T&R Manuals for all occupational fields whose personnel augment other units to increase their combat and/or logistic capabilities. The vision for this program includes plans to provide a Marine Corps training management information system that enables tracking of unit and individual training accomplishments by unit commanders and small unit leaders, automatically computing CRP for both units and individual Marines based upon MOS and rank (or billet). Linkage of T&R Events to the Marine Corps Task List (MCTL), through the core capability METs, has enabled objective assessment of training readiness in the DRRS.

2. DRRS measures and reports on the readiness of military forces and the supporting infrastructure to meet missions and goals assigned by the Secretary of Defense. With unit CRP based on the unit's training toward its METs, the CRP will provide a more accurate picture of a unit's readiness. This will give fidelity to future funding requests and factor into the allocation of resources. Additionally, the Ground T&R Program will help to ensure training remains focused on mission accomplishment and that training readiness reporting is tied to units' METLs.

2800 GROUND T&R MANUAL

CHAPTER 2

2800 INDIVIDUAL EVENTS

2800 GROUND T&R MANUAL

CHAPTER 2

2800 INDIVIDUAL EVENTS

2000. PURPOSE. This chapter contains individual training events for Occupational Field 28, Ground Electronics Maintenance.

2001. INDIVIDUAL SKILLS

1. Core skills are basic individual skills that make a Marine and qualify them for an MOS. They are the 1000 level skills introduced in the entry level training in the formal schools and refined in operational units.

2. Core Plus Skills are advanced individual skills that are environment, mission, rank or billet specific. They are the 2000 level skills introduced in the entry level managed on the job training in operational units and advanced formal schools training.

2002. EVENT CODING. Events in the T&R Manual are depicted with an 11 or 12 digit alphanumeric system, i.e. XXXX-XXXX-XXXX, utilizing the following methodology:

a. Field one - Each event starts with 28XX. 2800 indicates that the event is a core capability for all Marines within the occupational field. 2844 indicates the event is for 2844, Ground Communications Organizational Repairer, etc.

b. Field two - This field is alpha characters indicating a functional area. The functional areas for this chapter are listed below:

Functional Area	Field Name	Example
Maintenance Planning	PLAN	2844-PLAN-XXXX
Maintenance Administration	ADMN	2844-ADMN-XXXX
Maintenance Actions	ACT	2844-ACT-XXXX
Maintenance Operations	OPS	2844-OPS-XXXX
Maintenance Training	TRNG	2844-TRNG-XXXX

c. Field three - All individual events within T&R Manuals are either 1000-level events that are taught at MOS-producing formal schools or 2000-level events that are taught at advanced-level schools or are MOJT. The first digit indicates whether it is a core (1) or core plus (2) event.

The second digit indicates the associated field and the last two digits indicate the task number. 2303 indicates that it is a core plus task and it is the third task within the Maintenance Actions functional area for that MOS. This chapter contains both level events.

MOS	Field Name	Associated Field Number	Core/ Core Plus	Task	Example
2800	PLAN	101-199	2	1	2800-PLAN-2101
2871	ADMN	201-299	1	4	2871-ADMN-1201
2846	ACT	301-399	2	3	2846-ACT-2303
2821	OPS	401-499	1	2	2821-OPS-1401
2805	TRNG	501-599	2	1	2805-TRNG-2501

2003. INDEX OF 1000-LEVEL EVENTS

2004. 1000-LEVEL EVENTS

2800-ADMN-1201: Document maintenance actions

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

MOS PERFORMING: 2821, 2831, 2844, 2846, 2847, 2871, 2887

GRADES: PVT, PFC, LCPL, CPL

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, an equipment repair order, designated equipment and TMDE.

STANDARD: In accordance with TM 4700-15/1, Chapter 2-2.

PERFORMANCE STEPS:
1. Prepare ERO heading (T-card, 3-card) section.
2. Record job status changes, as required.
3. Record requisitioned parts, as required.
4. Record installed parts, as required.
5. Record category code changes, as required.
6. Record description of work, as required.
7. Record transmittal of work to higher echelons, as required.
8. Complete 9-card information.

REFERENCES:
1. FEDLOG Federal Logistic Data
2. MCO P4790.2C MIMMS Field Procedures Manual
3. TM 4700-15/1 Marine Corps Ground Equipment Record Procedures
4. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
5. MCO 4400.16 Uniform Material Movement and Issue Priority System
6. UM 4400-124 FMF SASSY Using Unit Procedures
7. UM 4400-123 FMF SASSY Management Unit Procedures
8. MCBul 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
9. MCO 3000.11 Marine Corps Automated Readiness Evaluation System
10. DLA Customer Assistance Handbook

SUPPORT REQUIREMENTS:

MATERIAL: Distance Learning Product Available: MCI 0410B, MIMMS (AIS)

2800-ADMN-1202: Requisition parts

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

MOS PERFORMING: 2821, 2831, 2844, 2846, 2847, 2871, 2887

GRADES: PVT, PFC, LCPL, CPL

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, designated faulty equipment and maintenance information system reports.

STANDARD: In accordance with TM 4700-15/1, Chapter 2-3.

PERFORMANCE STEPS:
1. Determine authorized level of maintenance.
2. Prepare equipment repair order shopping list (EROSL) header information.
3. Prepare EROSL transaction section.
4. Determine appropriate NSN/part number.
5. Determine source and maintenance codes.
6. Determine combat essentiality code (CEC).
7. Check the pre-expended bin, as required.
8. Submit a requisition.
9. Annotate parts receipts, as required.
10. File completed EROSLs.

REFERENCES:
1. Applicable technical manuals/publications
2. Associated SL-3/SL-4/parts listing
3. FEDLOG Federal Logistic Data
4. MCBul 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
5. MCO 4400.16G Uniform Materiel Movement and Issue Priority System
6. MCO P4790.2C MIMMS Field Procedures Manual
7. MCO P5215.17C The Marine Corps Technical Publications System
8. Maintenance Float Catalog
9. TM 4700-15/1 Marine Corps Ground Equipment Record Procedures
10. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
11. UM 4400-124 FMF SASSY Using Unit Procedures
12. UM 4400-123 FMF SASSY Management Unit Procedures
13. DLA Customer Assistance Handbook

SUPPORT REQUIREMENTS:

MATERIAL: Distance Learning Product Available: MCI 0410B, MIMMS (AIS)

2800-ACT-1301: Solder electronic components

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

MOS PERFORMING: 2821, 2823, 2831, 2834, 2844, 2846, 2847, 2862, 2871, 2887

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

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, an electronic device, TMDE and tools.

STANDARD: To the standards set forth in TM 5895-45/1.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Ensure proper handling of static sensitive component/printed circuit cards.
3. Select appropriate soldering tip for required application.
4. Set soldering iron to correct temperature.
5. Clean intended application area.
6. Tin wire, as required.
7. Solder connectors, as required.
8. Fabricate a cable, as required.
9. Splice a wire cable, as required.
10. Solder components, as required.
11. Clean flux from connection.
12. Visually inspect to verify soldering meets standards.
13. Perform operational check.

REFERENCES:
1. 29 CFR1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
2. Applicable technical manuals/publications
3. MCO P5090.2A Environmental Compliance and Protection Manual (Jul 98)
4. MSDS Material Safety Data Sheets
5. SOLDERING IN ELEC "Soldering in Electronics Assembly", Judd and Brindley 1999
6. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair
7. TM 9999-15/1 ESD Awareness Electro-Static Discharge
8. TM 9999-15/2 ESD Electro-static Discharge Management

2800-ACT-1302: Protect electrostatic sensitive devices

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

MOS PERFORMING: 2821, 2823, 2831, 2834, 2844, 2846, 2847, 2862, 2871, 2887

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

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, electrostatic discharge (ESD) sensitive devices, ESD labels and ESD protection materials.

STANDARD: In accordance with TI-4400-15/1A.

PERFORMANCE STEPS:
1. Review references.
2. Identify devices requiring ESD protection.
3. Identify materials required to protect electrostatic sensitive devices.
4. Protect ESD sensitive devices during handling.
5. Protect ESD sensitive devices during storage.
6. Protect ESD sensitive devices during transport.

REFERENCES:
1. Applicable technical manuals/publications

2. DOD-HDBK-263B Electrostatic Discharge Control Handbook for Protection of Electrical and Electronic Parts, Assemblies and Equipment
3. DOD-STD-1686 Electrostatic Discharge Control
4. FMFRP 4-14 Field Grounding Procedures for Computers and Generators
5. MCRP 6-22C RADIO OPERATOR'S HANDBOOK
6. MCRP 6-22D Field Antenna Handbook
7. MCWP 6-22 Communications and Information Systems
8. MIL-STD-1686B Electro-Static Discharge Control Program for Protection of Electrical and Electronic Parts
9. MIL-STD-188-124A Military Standard for Grounding
10. NEETS Navy Electricity and Electronics Training Series
11. SI-4400-15/5 Packaging/Handling/Storage and Transportation of ESD Sensitive Items
12. MCO 2410.2B Electromagnetic Effects Environmental Control Program
13. TI-4400-15/1A Packaging, Handling, and Transportation of ESD Items
15. TM 9999-15/1 ESD Awareness
15. TM 9999-15/2 ESD Management
16. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair
17. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety (Aug 91)

2800-ACT-1303: Diagnose basic electronic circuits

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

MOS PERFORMING: 2821, 2831, 2844, 2846, 2847, 2862, 2871, 2887

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, given a faulty electronic device, TMDE and tools.

STANDARD: To identify the faulty component.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Research applicable technical data pertaining to faulty equipment.
3. Read schematic diagram for basic electronic circuits.
4. Calculate basic electronic circuit parameters.
5. Ensure proper handling of static sensitive components/printed circuit cards.
6. Measure basic electronic circuit performance.
7. Trace signal paths in basic electronic circuits.
8. Identify fault

REFERENCES:
1. 29 CFR1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
2. Applicable technical manuals/publications
3. FLUKE 199 User's Manual: Fluke 192/196/199 ScopeMeter
4. FLUKE 77/BN Operator Manual: Fluke 77/BN

5. HP 33120A HP33120A Function Generator/Arbitrary Waveform Generator Operator Guide
6. MSDS Material Safety Data Sheets
7. TM 9999-15/1 ESD Awareness
8. TM 9999-15/2 ESD Management
9. SI-4400-15/5 Packaging/Handling/Storage and Transportation of ESD Sensitive Items
10. MCO 2410.2B Electromagnetic Effects Environmental Control Program
11. TI-4400-15/1A Packaging, Handling, and Transportation of ESD Items
12. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety (Aug 91)

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Semiconductor Device Test Set
2. Oscilloscope
3. Function Generator
4. Multimeter
5. Signal Generator
6. Power Supply

MATERIAL: Distance Learning Products Available:
1. MCI 2820, Electronics Mathematics for Marines
2. MCI 286G, Fundamentals of Digital Logic
3. MCI 287A, Introduction to Test Measurement and Diagnostic Equipment

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2800-ACT-1304: Maintain an electrostatic sensitive device (ESD) safe work area

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

MOS PERFORMING: 2821, 2831, 2834, 2844, 2846, 2847, 2862, 2871, 2887

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

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

STANDARD: In accordance with TI-4400-15/1A, paragraph 4 and TM 9999-15/2, Chapter 6.

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

REFERENCES:
1. TI 5820-25/22 Electromagnetic Environmental Effects Procedures for Installation of Communication Equipment on United States Marine Corps

Platforms
2. MCO 2410.2 Electromagnetic Environmental Effects Control Program
3. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety
4. TM 9999-15/1 Electrostatic Discharge Awareness
5. TM 9999-15/2 Electrostatic Discharge Awareness
6. SI-4400-15/5 Packaging/Handling/Storage and Transportation of ESD Sensitive Items
7. TI-4400-15/1A Packaging, Handling, and Transportation of ESD Items
8. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair

SUPPORT REQUIREMENTS:

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

2005. INDEX OF 2000-LEVEL EVENTS

2006. 2000-LEVEL EVENTS

2800-PLAN-2101: Analyze table of organization/equipment (TO&E)

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

MOS PERFORMING: 2802, 2805, 2823, 2831, 2834, 2862, 2874, 2887, 2891

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

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, a concept of employment, a mission and a table of organization/equipment.

STANDARD: To ensure there is adequate equipment and personnel to meet mission requirements.

PERFORMANCE STEPS:
1. Review mission statement.
2. Review table of organization/equipment.
3. Review concept of employment.
4. Review appropriate material fielding plans.
5. Review unit mission essential tasks.
6. Determine any special allowances, as required.
7. Identify required changes.
8. Determine impact to the DOTMLPF spectrum.
9. Draft table of equipment and organization change requests (TOECR).

REFERENCES:
1. CMR Consolidated Memorandum Report
2. MCO 5311.1 Total Force Structure Process (TFSP)
3. MCO P4400.150 Consumer-Level Supply Policy Manual
4. Unit TO/E Table of Organization/Equipment

2800-PLAN-2102: Plan for the deployment of a field maintenance facility

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

MOS PERFORMING: 2802, 2805, 2831, 2834, 2862, 2874, 2887, 2891

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

INITIAL TRAINING SETTING: MOJT

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

STANDARD: To determine the unit's organization for maintenance in accordance with MCO P4790.2_, Appendix E, pages E-2 and E-3.

PERFORMANCE STEPS:
1. Review Mission/Operations Plan.

2. Analyze site characteristics: terrain, environment, tactical situation, size and mission of unit, maintenance requirements dictated by mission.
3. Determine space requirements, access routes, terrain features, proximity to supported units, and proximity to other logistics elements.
2. Record: safety procedures, test equipment requirements, maintenance facility requirements/space, power requirements, organic transportation requirements, external transportation, security requirements, storage requirements, reporting requirements and supply support requirements.
4. Submit plan for approval.

REFERENCES:
1. MCO P4790.2C MIMMS Field Procedures Manual
2. MCWP 3-40.3 Communications and Information Systems
3. MCWP 5-1 Marine Corps Planning Process
4. SECNAVINST 5510.36_ Dept of the Navy Information and Personnel Security Program Regulations
5. TM 9999-15/1 ESD Awareness Electro-Static Discharge
6. TM-5410-14/1 Intermediate Maintenance Instructions Electronics Maintenance Complex
7. TM 5411-14/1 Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) Operation and Maintenance Instructions
8. TM-5411-14/P&2 EMI Shelter (Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) 10-Foot Rigid General Purpose Shelter Operation and Maintenance (Instructions with Repair Parts List)
9. MCWP 3-40.3 Communications and Information Systems
10. Operational Order
11. UNIT SOP Unit's Standing Operating Procedures
12. Unit TO/E Table of Organization/Equipment
13. MCWP 4-24 Maintenance Operations
14. MCWP 5-1 Marine Corps Planning Process
15. MCRP 4-11.3 Unit Embarkation Handbook
16. TI 5820-25/22 Electromagnetic Environmental Effects Procedures for Installation of Communication Equipment on United States Marine Corps Platforms
17. MCO 2410.2 Electromagnetic Environmental Effects Control Program
18. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety

SUPPORT REQUIREMENTS:

MATERIAL: Distance Learning Products Available:
1. MCI 0414B, Ground Maintenance Management Procedures for Supervisors

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2800-PLAN-2103: Draft unit's maintenance policy letters

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

MOS PERFORMING: 2802, 2805, 2831, 2834, 2862, 2874, 2887, 2891

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

INITIAL TRAINING SETTING: MOJT

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

STANDARD: In accordance with MCO P4790.2_, Chapter 1, paragraph 4.

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. Record/state as required: safety procedures, maintenance procedures, training procedures, physical security procedures, transmission/emission security, cryptographic (COMSEC) procedures, command and control procedures, operational procedures, embarkation procedures, reports (administrative/operational), continuing actions of Marines, ECCM and an emergency action plan.
6. Indicate rationale why current directives are inadequate or inappropriate.
7. Staff policy letters for review.

REFERENCES:

1. MCO 1200.17 Military Occupational Specialties Manual
2. MCO 5311.1 Total Force Structure Process (TFSP)
3. 29 CFR 1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
4. Applicable technical manuals/publications
5. MCWP 3-40.3 Communications and Information Systems
6. MCWP 5-1 Marine Corps Planning Process
7. MSC MMSOP Major Subordinate Command Maintenance Management Standing Operating Procedures
8. Unit TO/E Table of Organization/Equipment
9. MCWP 4-24 Maintenance Operations
10. MCO P7100.8 Field Guidance Budget Manual
11. MCRP 4-11.3 Unit Embarkation Handbook
12. UM PLMS Publication Library Management System
13. MCO P5215.17 Marine Corps Technical Publications System
14. MCBul 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
15. MCO 3000.11 Marine Corps Automated Readiness Evaluation System
16. MCO 4400.16 Uniform Material Movement and Issue Priority System
17. MCO P4400.150 Consumer Level Supply Policy Manual
18. MCO P4400.151 Intermediate-Level Supply Management Policy Manual
19. MCO P4400.82F Regulated/Controlled Items Management Manual
20. MCO P4790.1 MIMMS Introduction Manual
21. MCO P4790.2 MIMMS Field Procedures Manual
22. TM 4700-15/1 Ground Equipment Record Procedures
23. UM 4400-124 FMF SASSY Using Unit Procedures
24. UM 4400-60 Material Returns Program User's Manual
25. UM 4400-123 FMF SASSY Management Unit Procedures
26. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
27. MCO 4855.10 Product Quality Deficiency Reporting (PQDR)
28. MCO 4105.2 Marine Corps Warranty Program
29. ICE2 Statement of Requirements Document
30. Contracting Officer Representative (COR) ICE2 Handbook
31. MCO 4733.1 Marine Corps Test, Measurement, Diagnostic Equipment (TMDE)

Calibration and Maintenance Program (CAMP)
32. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
33. TI 4733-15/1 Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance
34. TI 4733-15/6 Test, Measurement and Diagnostic Equipment Calibration and Maintenance Support
35. TI 4733-15/7 Procedural Publication Index for Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
36. TI 4733-15/9 Radiac Instrument Calibration Requirements
37. TI 4733-15/10 Special Calibration of Torque Wrenches
38. TI 4733-15/11 Infantry Weapons Gauge Calibrations Program
39. TI 4733-15/12 Calibration Requirements for Thermistor Mounts/Power Sensors Marine Corps Calibration Program
40. TI 4733-15/21 Survey Instrument Calibration
41. TI 4733-35/5 Calibration Equipment Recommendations for the Marine Corps Calibration Program
42. TI 4733-35/23 Naval and Marine Corps Calibration Laboratory Audit/Certification Manual
43. TI 5820-25/22 Electromagnetic Environmental Effects Procedures for Installation of Communication Equipment on United States Marine Corps Platforms
44. TM 4795-12/1 Corrosion Prevention and Control
45. TM 4795-34/2 Corrosion Prevention and Control
46. CNSS 4000 Communication Security (COMSEC) Maintenance and Maintenance Training
47. DODI 8523.01 Communications Security
48. DODI 8570.01-M Information Assurance Workforce Improvement Program
49. CMS-5 Communication Security Material System (CMS) Cryptographic Equipment Information/Guidance manual
50. Electronic Key Management System (EKMS 1)

2800-ADMN-2201: Manage maintenance shop programs

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

MOS PERFORMING: 2821, 2823, 2831, 2834, 2844, 2846, 2847, 2862, 2874, 2887, 2891

GRADES: SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

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

STANDARD: In accordance with MCO P4790.2_, Chapter 1, MCO P4790.2_, Chapter 2, MCO P4790.2_, Chapter 3 and the unit's MMSOP.

PERFORMANCE STEPS:
1. Supervise the following programs: calibration control, publication control, quality control, modification control, tool control, pre-expend bin, product quality deficiency report (PQDR), recoverable items report (WIR) procedures, training, desktops/turnovers, embarkation, hazardous materials (HAZMAT), MIMMS, safety, shipping and receiving.

2. Supervise supply support procedures and special programs, e.g. SMU-credit card/PE/RA budgets, float recomputations, TO/E reviews, WIRs/LUPs, warranty administration, contracting officer representative procedures.
3. Supervise maintenance functions (PMCS, CM, MODS, CAL).
4. Supervise participation in maintenance related programs: inspect and repair only as necessary (IROAN), administrative storage and administrative deadline, contact teams, maintenance standown, joint oil analysis program, replacement and evacuation program, corrosion prevention and control program, depot master work schedules, data assurance team inspections, ELMP and DLMP.

REFERENCES:

1. 29 CFR 1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
2. Applicable technical manuals/publications
3. MCWP 3-40.3 Communications and Information Systems
4. MCWP 5-1 Marine Corps Planning Process
5. MPS Load Plan
6. Operational Order
7. UNIT SOP Unit's Standing Operating Procedures
8. Unit TO/E Table of Organization/Equipment
9. MCWP 4-24 Maintenance Operations
10. MCRP 4-11.3 Unit Embarkation Handbook
11. UM PLMS Publication Library Management System
12. MCO P5215.17 Marine Corps Technical Publications System
13. MCBul 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
14. MCO 3000.11 Marine Corps Automated Readiness Evaluation System
15. MCO 4400.16 Uniform Material Movement and Issue Priority System
16. MCO P4400.150 Consumer Level Supply Policy Manual
17. MCO P4400.151 Intermediate-Level Supply Management Policy Manual
18. MCO P4400.82F Regulated/Controlled Items Management Manual
19. MCO P4790.1 MIMMS Introduction Manual
20. MCO P4790.2 MIMMS Field Procedures Manual
21. TM 4700-15/1 Ground Equipment Record Procedures
22. DLA Customer Assistance Handbook
23. UM 4400-124 FMF SASSY Using Unit Procedures
24. UM 4400-60 Material Returns Program User's Manual
25. UM 4400-123 FMF SASSY Management Unit Procedures
26. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
27. MCO 4855.10 Product Quality Deficiency Reporting (PQDR)
28. MCO 4105.2 Marine Corps Warranty Program
29. ICE2 Statement of Requirements Document
30. Contracting Officer Representative (COR) ICE2 Handbook
31. MCO 4733.1 Marine Corps Test, Measurement, Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
32. TM 10510-OD/1 General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Electronic Support Items and Tool Kits)
33. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
34. TI 4733-15/1 Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance
35. TI 4733-15/6 Test, Measurement and Diagnostic Equipment Calibration and Maintenance Support
36. TI 4733-15/7 Procedural Publication Index for Test, Measurement and 38

Diagnostic Equipment Calibration and Maintenance Program
37. TI 4733-15/9 Radiac Instrument Calibration Requirements
38. TI 4733-15/10 Special Calibration of Torque Wrenches
39. TI 4733-15/11 Infantry Weapons Gauge Calibrations Program
40. TI 4733-15/12 Calibration Requirements for Thermistor Mounts/Power Sensors Marine Corps Calibration Program
41. TI 4733-15/21 Survey Instrument Calibration
42. TI 4733-35/5 Calibration Equipment Recommendations for the Marine Corps Calibration Program
43. TI 4733-35/8 Marine Corps Transfer Standards Program
44. TI 4733-35/23 Naval and Marine Corps Calibration Laboratory Audit/Certification Manual
45. TI 5820-25/22 Electromagnetic Environmental Effects Procedures for Installation of Communication Equipment on United States Marine Corps Platforms
46. MCO 2410.2 Electromagnetic Environmental Effects Control Program
47. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control
48. TM 9999-15/1 Electrostatic Discharge Awareness
49. TM 9999-15/2 Electrostatic Discharge Awareness
50. SI-4400-15/5 Packaging/Handling/Storage and Transportation of ESD Sensitive Items
51. TI-4400-15/1A Packaging, Handling, and Transportation of ESD Items
52. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair
53. TM 2000.15/1 Brief Description of US Marine Corps Communication-Electronic Equipment
54. TM 2000.OD/2 Principle Technical Characteristics of U.S. Marine Corps Communication-Electronics Equipment
55. TM 4795-12/1 Corrosion Prevention and Control
56. TM 4795-34/2 Corrosion Prevention and Control
57. TM-5410-14/1 Intermediate Maintenance Instructions Electronics Maintenance Complex
58. TM 5411-14/1 Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) Operation and Maintenance Instructions
59. TM-5411-14/P&2 EMI Shelter (Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) 10-Foot Rigid General Purpose Shelter Operation and Maintenance (Instructions with Repair Parts List)
60. CNSS 4000 Communication Security (COMSEC) Maintenance and Maintenance Training
61. DODI 8523.01 Communications Security
62. DODI 8570.01-M Information Assurance Workforce Improvement Program
63. CMS-5 Communication Security Material System (CMS) Cryptographic Equipment Information/Guidance manual
64. Electronic Key Management System (EKMS 1)

SUPPORT REQUIREMENTS:

MATERIAL: Distance Learning Product Available:
1. MCI 0414B, Ground Maintenance Management Procedures for Supervisors
2. MCI 2525AP Communication Security
3. MarineNet Course 84870, COMSEC Awareness

2800-ADMN-2202: Analyze maintenance information

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

MOS PERFORMING: 2821, 2823, 2831, 2834, 2844, 2846, 2847, 2862, 2874, 2887

GRADES: SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, maintenance records, information systems and output reports.

STANDARD: To ensure required delivery dates are met and maximum maintenance cycle time is not exceeded in accordance with MCO P4790.2_, Chapter 4; MCO P4790.2_, Appendix G; and UM 4790-5.

PERFORMANCE STEPS:
1. Review EROs and EROSLs.
2. Provide input data.
3. Monitor MIMMS output reports.
4. Conduct validation and reconciliation, as required.
5. Monitor maintenance cycle times.
6. Monitor workflow.
7. Conduct maintenance management troubleshooting, as required.

REFERENCES:
1. MCWP 3-40.3 Communications and Information Systems
2. UNIT SOP Unit's Standing Operating Procedures
3. MCWP 4-24 Maintenance Operations
4. MCBul 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
5. MCO 3000.11 Marine Corps Automated Readiness Evaluation System
6. MCO 4400.16 Uniform Material Movement and Issue Priority System
7. MCO P4790.1 MIMMS Introduction Manual
8. MCO P4790.2 MIMMS Field Procedures Manual
9. TM 4700-15/1 Ground Equipment Record Procedures
10. DLA Customer Assistance Handbook
11. UM 4400-124 FMF SASSY Using Unit Procedures
12. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

SUPPORT REQUIREMENTS:

MATERIAL: Distance Learning Product Available:
1. MCI 0414B, Ground Maintenance Management Procedures for Supervisors

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2800-ADMN-2203: Administer pre-expended bin (PEB) control program

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

MOS PERFORMING: 2821, 2831, 2844, 2846, 2847, 2871, 2887

GRADES: PVT, PFC, LCPL, CPL

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, a unit SOP and the Commander's authorization.

STANDARD: In accordance with MCO P4790.2_, Chapter 2, paragraph 2004 and MCO P4400.150, paragraph 5018.

PERFORMANCE STEPS:
1. Determine high usage, fast-moving items.
2. Prepare PEB stockage listing.
3. Monitor usage criteria.
4. Issue parts.
5. Conduct periodic inventories.
6. Establish re-order points.
7. Requisition replacement parts, as required.

REFERENCES:
1. MCO P4400.150 Consumer-Level Supply Policy Manual
2. MCO P4790.2 MIMMS Field Procedures Manual
3. UNIT SOP Unit's Standing Operating Procedures

2800-ADMN-2204: Administer calibration control program

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

MOS PERFORMING: 2821, 2831, 2844, 2846, 2847, 2871, 2887

GRADES: PVT, PFC, LCPL, CPL

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, equipment requiring calibration and the unit's SOP.

STANDARD: To ensure equipment's calibration status is being maintained in accordance with MCO P4790.2 Appendix D and MCO P4733.1.

PERFORMANCE STEPS:
1. Identify all items of TMDE authorized the unit.
2. Locate all items requiring calibration.
3. Prepare calibration control records for all items of TMDE.
4. Determine calibration control category.
5. Determine calibration interval
6. Schedule items for calibration.
7. Induct equipment for calibration.

REFERENCES:
1. Applicable technical manuals/publications
2. CMR Consolidated Memorandum Report
3. MCO 4733.1 Marine Corps Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
4. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)

5. SL 1-2/3 Index of Authorized Publications in Stock
7. TM 4700-15/1 Marine Corps Ground Equipment Record Procedures
8. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
9. UNIT SOP Unit's Standing Operating Procedures
10. Unit TO/E Table of Organization/Equipment
11. TM 10510-OD/1 General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Electronic Support Items and Tool Kits)
12. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
13. TI 4733-15/1 Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance
14. TI 4733-15/6 Test, Measurement and Diagnostic Equipment Calibration and Maintenance Support
15. TI 4733-15/7 Procedural Publication Index for Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
16. TI 4733-15/9 Radiac Instrument Calibration Requirements
17. TI 4733-15/10 Special Calibration of Torque Wrenches
18. TI 4733-15/11 Infantry Weapons Gauge Calibrations Program
19. TI 4733-15/12 Calibration Requirements for Thermistor Mounts/Power Sensors Marine Corps Calibration Program
20. TI 4733-15/21 Survey Instrument Calibration
21. TI 4733-35/5 Calibration Equipment Recommendations for the Marine Corps Calibration Program
22. TI 4733-35/8 Marine Corps Transfer Standards Program
23. TI 4733-35/23 Naval and Marine Corps Calibration Laboratory Audit/Certification Manual

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2800-ADMN-2205: Administer modification control program

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

MOS PERFORMING: 2821, 2831, 2834, 2844, 2846, 2847, 2871, 2887

GRADES: PVT, PFC, LCPL, CPL

INITIAL TRAINING SETTING: MOJT

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

STANDARD: To ensure the application and recording of all modifications for the unit's equipment, in accordance with MCO P4790.2_, paragraph 3004 and TM-4700-15/1, Chapter 2-5-1.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Identify equipment requiring modification.
3. Review modification instructions.
4. Induct equipment into the maintenance cycle, as required.
5. Requisition modification materials, as required.
6. Ensure application of modifications, as required.
7. Update modification control records.

REFERENCES:
1. CMR Consolidated Memorandum Report
2. CMS-5 COMSEC Material System Policy & Procedures Manual
3. EKMS-1_ CMS Policy and Procedures for Navy EKMS Tiers 2 & 3
4. MCO P4790.2 MIMMS Field Procedures Manual
5. SL 1-2/3 Index of Authorized Publications in Stock
6. TM 4700-15/1 Marine Corps Ground Equipment Record Procedures
7. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
8. Unit TO/E Table of Organization/Equipment
9. Applicable MIs & TIs
10. TM 4700-15/H

2800-ADMN-2206: Administer tool control program

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

MOS PERFORMING: 2821, 2831, 2844, 2846, 2847, 2871, 2887

GRADES: PVT, PFC, LCPL, CPL

INITIAL TRAINING SETTING: MOJT

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

STANDARD: To maintain accountability and control of all tool kits, chests, sets and organic equipment in accordance with MCO P4400.150, paragraph 2011 and 2012 and MCO P4790.2_, Appendix D.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Identify all assigned tool sets, kits and chests and equipment.
3. Establish special tool lists, as required.
4. Assign responsibility for maintenance of each tool set, chest, kit and equipment.
5. Identify inventory interval.
6. Maintain record for each tool set, chest, kit and organic equipment.
7. Verify inventories.
8. Requisition replacements, as required.
9. Manage daily tool issue and receipt.
10. Ensure security of all tool sets, chests, kits and organic equipment.

REFERENCES:
1. Applicable technical manuals/publications
2. CMR Consolidated Memorandum Report
3. MCO 4733.1B Marine Corps Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP) (Jun 99)
4. MCO P4400.150E Consumer-Level Supply Policy Manual (Jun 99)
5. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
6. SL 1-2/3 Index of Authorized Publications in Stock
7. TM 4700-15/1 Marine Corps Ground Equipment Record Procedures
8. UM 4400-124 Sassy Using Unit Procedures
9. UM 4400-15 Organic Property Control

10. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
11. UNIT SOP Unit's Standing Operating Procedures
12. Unit TO/E Table of Organization/Equipment
13. TM-5410-14/1 Intermediate Maintenance Instructions Electronics Maintenance Complex
14. TM 5411-14/1 Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) Operation and Maintenance Instructions
15. TM-5411-14/P&2 EMI Shelter (Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) 10-Foot Rigid General Purpose Shelter Operation and Maintenance (Instructions with Repair Parts List)
16. TM 10510-OD/1 General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Electronic Support Items and Tool Kits)
17. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools

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2800-ADMN-2207: Administer publication control program

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

MOS PERFORMING: 2821, 2831, 2844, 2846, 2847, 2871, 2887

GRADES: PVT, PFC, LCPL, CPL

INITIAL TRAINING SETTING: MOJT

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

STANDARD: To establish and maintain a publications library in accordance with MCO P4790.2_, Paragraph 2008 and MCO P4790.2_ Appendix B.

PERFORMANCE STEPS:
1. Determine what equipment is rated or supported by each commodity/section.
2. Prepare a publications control form for each type of equipment rated.
3. Determine and record all authorized publications associated with each equipment type.
4. Determine and record quantities required.
5. Determine and record PCN for each publication.
6. Update publication listing (PL).
7. Requisition required publications.
8. Inventory publications.
9. Incorporate required changes.
10. Destroy obsolete publications.
11. Update inventory records.
12. Update publication control records.

REFERENCES:
1. Applicable technical manuals/publications
2. MCBUL 5600 Series
3. MCO 5215.12 Managing and Maintaining Navy Directives Files and Establishing "Must Hold" Lists
4. MCO 5215.1K Marine Corps Directives Management Program
5. MCO P4790.2C MIMMS Field Procedures Manual

6. MCO P5215.17C The Marine Corps Technical Publications System
7. NAVMC 2761 Catalog of Publications
8. SL 1-2/3 Index of Authorized Publications in Stock
9. TM 4700-15/1 Marine Corps Ground Equipment Record Procedures
10. UNIT SOP Unit's Standing Operating Procedures
11. Unit TO/E Table of Organization/Equipment
12. UM PLMS Publications Library Management System

SUPPORT REQUIREMENTS:

MATERIAL: Distance Learning Product Available:
1. MCI 0416A, The Marine Corps Publications and Directives System

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2800-ADMN-2208: Maintain record folders on organic maintenance equipment

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

MOS PERFORMING: 2821, 2831, 2844, 2846, 2847, 2871, 2887

GRADES: PVT, PFC, LCPL, CPL

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, equipment and records.

STANDARD: To ensure individual principle end items (PEI) have a record folder in accordance with TM 4700-15, chapter 8.

PERFORMANCE STEPS:
1. Identify equipment requiring record folders.
2. Create record folders.
3. Create skeleton record folders for equipment in temporary loan.
4. Update records, as required.
5. Schedule PMCS in record folder on NAVMC 10561.

REFERENCES:
1. CMR Consolidated Memorandum Report
2. MCO P4790.2C MIMMS Field Procedures Manual
3. SL 1-2/3 Index of Authorized Publications in Stock
4. TM 4700-15/1 Marine Corps Ground Equipment Record Procedures
5. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
6. Unit TO/E Table of Organization/Equipment
7. Unit/MSC MMSOP

2800-ADMN-2209: Report product quality deficiency

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

MOS PERFORMING: 2821, 2831, 2834, 2844, 2846, 2847, 2862, 2871, 2874, 2887
GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, defective equipment and a Product Quality Deficiency Report.

STANDARD: In accordance with MCO 4855.10, paragraph 7 and TM 4700-15/1, Chapter 2-13.

PERFORMANCE STEPS:
1. Identify deficiencies in equipment or materials.
2. Segregate and secure defective equipment.
3. Identify deficiency category.
4. Prepare a product quality deficiency report (PQDR).
5. Submit the PQDR.

REFERENCES:
1. Applicable technical manuals/publications
2. MCO 4855.10B Product Quality Deficiency Report (PQDR)
3. TM 4700-15/1 Marine Corps Ground Equipment Record Procedures
4. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

2800-ADMN-2210: Administer quality control program

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

MOS PERFORMING: 2821, 2823, 2831, 2834, 2844, 2846, 2847, 2862, 2871, 2874, 2887

GRADES: SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, designated equipment and TMDE.

STANDARD: To ensure equipment performs to specified parameters in accordance with MCO P4790.2_, paragraph 3001, sub-paragraph e and MCO P4790.2_, Appendix E.

PERFORMANCE STEPS:
1. Determine performance standards.
2. Verify completion of maintenance actions.
3. Verify operational condition.
4. Verify completeness and accuracy of equipment records and forms.
5. Reject faulty equipment.
6. Verify equipment closeout.
7. Update desktop procedures.

REFERENCES:
1. Applicable technical manuals/publications
2. MCO P4790.2C MIMMS Field Procedures Manual
3. TM 4700-15/1 Marine Corps Ground Equipment Record Procedures
4. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

2800-ADMN-2211: Submit changes to technical publications

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

MOS PERFORMING: 2821, 2831, 2844, 2846, 2847, 2871, 2887

GRADES: PVT, PFC, LCPL, CPL

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, a NAVMC 10772 (Recommended Changes to Technical Publications) and technical publications requiring a change.

STANDARD: In accordance with MCO 5215.17 and TM 4700-15/H, Chapter 2-23.

PERFORMANCE STEPS:
1. Identify required changes.
2. Prepare the NAVMC 10772 with recommended changes.
3. Submit the NAVMC 10772.

REFERENCES:
1. Applicable technical manuals/publications
2. MCO P4790.2C MIMMS Field Procedures Manual
3. TM 4700-15/1 Marine Corps Ground Equipment Record Procedures
4. MCO 5215.17 Marine Corps Technical Publication System

2800-ADMN-2212: Administer electromagnetic environmental effects (E3) program

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

MOS PERFORMING: 2821, 2823, 2831, 2834, 2844, 2846, 2847, 2862, 2871, 2874, 2887

GRADES: CPL, SGT, SSGT

INITIAL TRAINING SETTING: MOJT

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

STANDARD: To mitigate the effects of E3 in accordance with MCO 2410.2 and TI 5820-25/22_.

PERFORMANCE STEPS:
1. Develop/design installation techniques that cover the following areas: indirect coupling, shielding, grounding, bonding, filtering and corrosion control.
2. Develop maintenance standards.
3. Identify electromagnetic environmental effects (E3) problems to the unit E3 coordinator.

4. Ensure compliance with E3 procedures.

REFERENCES:
1. Applicable technical manuals/publications
2. TI 5820-25/22 Electromagnetic Environmental Effects Procedures for Installation of Communication Equipment on United States Marine Corps Platforms
3. MCO 2410.2 Electromagnetic Environmental Effects Control Program
4. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety
5. TM 9999-15/1 ESD Awareness Electro-Static Discharge

2800-ADMN-2213: Perform the duties of a contracting officer representative (COR)

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

MOS PERFORMING: 2802, 2805, 2891

GRADES: MSGT, MGYSGT, WO-1, CWO2, CWO3, CWO4, CAPT, MAJ

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, an applicable task order and a statement of requirements.

STANDARD: In accordance with the WR-ALC/LESBL ICE 02-001 QASP Directive and DFARS 201.602-2.

PERFORMANCE STEPS:
1. Monitor delivery and performance at the task order or site level.
2. Advise the contracting officer in all matters related to the specific task order(s).
3. Certify contractor performance using the contractor's certificate of engineering services rendered (CESR).
4. Order, inspect and accept contractor provided maintenance and IT support under the terms of the contract.
5. Notify contractor personnel of all local policy and procedures affecting performance at the site and provide all required operating instructions.
6. Interface with the site SSO for contractor personnel clearance actions including providing the compelling need actions requests.
7. Authorize contractor ID cards, as required.
8. Identify contractor personnel as mission and submit written notification to PCO and contractor ten working days prior to official assignment, as required.
9. Validate funds availability prior to authorization of all work.
10. Monitor contractor performance utilizing the contractors IMS on-line system.
11. Assess contractor performance in accordance with QASP and provide quarterly feedback to the SSLSM Program Office.
12. Maintain a surveillance folder or file for each task order.

REFERENCES:
1. Applicable technical manuals/publications

2. ICE2 Contract Maintenance Contract
3. MCO P4400.150E Consumer-Level Supply Policy Manual (Jun 99)
4. MCO P4790.2C MIMMS Field Procedures Manual (Jul 94)
5. TM 4700-15/1 Marine Corps Ground Equipment Record Procedures
6. Higher Headquarters Directives
7. COR Quick Reference Guide
8. WR-ALC/LESBL ICE 02-001 QASP Directive
9. Statement of Requirements Document
10. DFARS 201.602-2

2800-ACT-2301: Perform limited technical inspections on ground electronics equipment

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

MOS PERFORMING: 2821, 2831, 2834, 2844, 2846, 2847, 2862, 2871, 2874, 2887

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

INITIAL TRAINING SETTING: MOJT

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

STANDARD: To determine the status of equipment in accordance with MCO 4790.2_, paragraph 3007.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Inventory equipment.
3. Connect equipment to TMDE, as required.
4. Ensure proper handling of static sensitive components/printed circuit cards.
5. Determine condition of equipment.
6. Determine modification status of equipment.
7. Determine extent and level of maintenance required to return equipment back to operational condition.
8. Document LTI, as required.
9. Perform LTI as part of acceptance and closeout procedures to include quality assurance checks.

REFERENCES:
1. Applicable technical manuals/publications
2. MCO P4790.2 MIMMS Field Procedures Manual
3. SL 1-2/3 Index of Authorized Publications in Stock
4. TM 4700-15/1 Marine Corps Ground Equipment Record Procedures
5. TM 9999-15/1 ESD Awareness Electro-Static Discharge

2800-ACT-2302: Deploy a field maintenance activity

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

MOS PERFORMING: 2823, 2831, 2834, 2862, 2887

GRADES: SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

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

STANDARD: To implement task organized maintenance in support of MAGTF Operations in accordance with MCO P4790.2_, Appendix E.

PERFORMANCE STEPS:
1. Adhere to the safety requirements.
2. Prepare deploying personnel, as required.
3. Draft load plans for personnel and equipment.
4. Prepare equipment for embarkation.
5. Arrange for special material handling and equipment transportation.
6. Determine site requirements after considering: space requirements, terrain features, access routes, proximity to supported units and logistic support.
7. Determine power requirements.
8. Install the maintenance facility.
9. Liaise with supporting establishments.
10. Establish logistics and administrative procedures.
11. Provide deployed maintenance support.
12. Direct maintenance contact team actions.
13. Maintain security.

REFERENCES:
1. MCO 1200.17 Military Occupational Specialties Manual
2. 29 CFR 1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
3. Applicable technical manuals/publications
4. MCWP 3-40.3 Communications and Information Systems
5. MCWP 5-1 Marine Corps Planning Process
6. MPS Load Plan
7. Operational Order
8. UNIT SOP Unit's Standing Operating Procedures
9. Unit TO/E Table of Organization/Equipment
10. MCWP 4-24 Maintenance Operations
11. MCRP 4-11.3 Unit Embarkation Handbook
12. UM PLMS Publication Library Management System
13. MCO P5215.17 Marine Corps Technical Publications System
14. MCBul 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
15. MCO 3000.11 Marine Corps Automated Readiness Evaluation System
16. MCO 4400.16 Uniform Material Movement and Issue Priority System
17. MCO P4400.150 Consumer Level Supply Policy Manual
18. MCO P4400.151 Intermediate-Level Supply Management Policy Manual
19. MCO P4400.82F Regulated/Controlled Items Management Manual
20. MCO P4790.1 MIMMS Introduction Manual
21. MCO P4790.2 MIMMS Field Procedures Manual
22. TM 4700-15/1 Ground Equipment Record Procedures

23. DLA Customer Assistance Handbook
24. UM 4400-124 FMF SASSY Using Unit Procedures
25. UM 4400-60 Material Returns Program User's Manual
26. UM 4400-123 FMF SASSY Management Unit Procedures
27. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
28. MCO 4855.10 Product Quality Deficiency Reporting (PQDR)
29. MCO 4105.2 Marine Corps Warranty Program
30. ICE2 Statement of Requirements Document
31. Contracting Officer Representative (COR) ICE2 Handbook
32. DoDD 4151.18 Maintenance of Military Material
33. MCO 4733.1 Marine Corps Test, Measurement, Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
34. TM 10510-OD/1 General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Electronic Support Items and Tool Kits)
35. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
36. TI 4733-15/1 Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance
37. TI 4733-15/6 Test, Measurement and Diagnostic Equipment Calibration and Maintenance Support
38. TI 4733-15/7 Procedural Publication Index for Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
39. TI 4733-15/9 Radiac Instrument Calibration Requirements
40. TI 4733-15/10 Special Calibration of Torque Wrenches
41. TI 4733-15/11 Infantry Weapons Gauge Calibrations Program
42. 4733-15/12 Calibration Requirements for Thermistor Mounts/Power Sensors Marine Corps Calibration Program
43. TI 4733-15/21 Survey Instrument Calibration
44. TI 4733-35/5 Calibration Equipment Recommendations for the Marine Corps Calibration Program
45. TI 4733-35/8 Marine Corps Transfer Standards Program
46. TI 4733-35/23 Naval and Marine Corps Calibration Laboratory Audit/Certification Manual
47. TI 5820-25/22 Electromagnetic Environmental Effects Procedures for Installation of Communication Equipment on United States Marine Corps Platforms
48. MCO 2410.2 Electromagnetic Environmental Effects Control Program
49. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety
50. TM 9999-15/1 Electrostatic Discharge Awareness
51. TM 9999-15/2 Electrostatic Discharge Awareness
52. SI-4400-15/5 Packaging/Handling/Storage and Transportation of ESD Sensitive Items
53. TI-4400-15/1A Packaging, Handling, and Transportation of ESD Items
54. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair
55. TM 2000.15/1 Brief Description of US Marine Corps Communication-Electronic Equipment
56. TM 2000.OD/2 Principle Technical Characteristics of U.S. Marine Corps Communication-Electronics Equipment
57. TM 4795-12/1 Corrosion Prevention and Control
58. TM 4795-34/2 Corrosion Prevention and Control
59. TM-5410-14/1 Intermediate Maintenance Instructions Electronics Maintenance Complex
60. TM 5411-14/1 Marine Corps Expeditionary Shelter System (MCESS) (Small

Shelter Family) Operation and Maintenance Instructions
61. TM-5411-14/P&2 EMI Shelter (Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) 10-Foot Rigid General Purpose Shelter Operation and Maintenance (Instructions with Repair Parts List)
62. CNSS 4000 Communication Security (COMSEC) Maintenance and Maintenance Training
63. DODI 8523.01 Communications Security
64. DODI 8570.01-M Information Assurance Workforce Improvement Program
65. CMS-5 Communication Security Material System (CMS) Cryptographic Equipment Information/Guidance manual
66. Electronic Key Management System (EKMS 1)

2800-ACT-2303: Determine organizational maintenance support requirements

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

MOS PERFORMING: 2831, 2834, 2862, 2887, 2891

GRADES: SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: MOJT

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

STANDARD: To ensure the continuity of maintenance services in accordance with MCO P4790.2_.

PERFORMANCE STEPS:
1. Review unit SOP.
2. Evaluate unit's support requirements, including: (class IX, contracted logistics support (CLS), MHE, transportation, supply, engineer, security, calibration and distribution).
3. Identify class IX requirements.
4. Identify contracted logistics support requirements.
5. Identify MHE requirements.
6. Identify transportation requirements.
7. Identify supply support requirements.
8. Identify engineer support requirement.
9. Identify security requirements.
10. Identify calibration support requirement.
11. Identify distribution requirements.
12. Identify higher and adjacent supporting units.
13. Submit support requirements.

REFERENCES:
1. MCO 1200.17 Military Occupational Specialties Manual
2. 29 CFR 1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
3. Applicable technical manuals/publications
4. MCWP 3-40.3 Communications and Information Systems
5. MCWP 5-1 Marine Corps Planning Process
6. MPS Load Plan

7. Operational Order
8. UNIT SOP Unit's Standing Operating Procedures
9. Unit TO/E Table of Organization/Equipment
10. MCWP 4-24 Maintenance Operations
11. MCRP 4-11.3 Unit Embarkation Handbook
12. UM PLMS Publication Library Management System
13. MCO P5215.17 Marine Corps Technical Publications System
14. MCBul 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
15. MCO 3000.11 Marine Corps Automated Readiness Evaluation System
16. MCO 4400.16 Uniform Material Movement and Issue Priority System
17. MCO P4400.150 Consumer Level Supply Policy Manual
18. MCO P4400.151 Intermediate-Level Supply Management Policy Manual
19. MCO P4400.82F Regulated/Controlled Items Management Manual
20. MCO P4790.1 MIMMS Introduction Manual
21. MCO P4790.2 MIMMS Field Procedures Manual
22. TM 4700-15/1 Ground Equipment Record Procedures
23. DLA Customer Assistance Handbook
24. UM 4400-124 FMF SASSY Using Unit Procedures
25. UM 4400-60 Material Returns Program User's Manual
26. UM 4400-123 FMF SASSY Management Unit Procedures
27. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
28. MCO 4855.10 Product Quality Deficiency Reporting (PQDR)
29. MCO 4105.2 Marine Corps Warranty Program
30. ICE2 Statement of Requirements Document
31. Contracting Officer Representative (COR) ICE2 Handbook
32. DoDD 4151.18 Maintenance of Military Material
33. MCO 4733.1 Marine Corps Test, Measurement, Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
34. TM 10510-OD/1 General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Electronic Support Items and Tool Kits)
35. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
36. TI 4733-15/1 Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance
37. TI 4733-15/6 Test, Measurement and Diagnostic Equipment Calibration and Maintenance Support
38. TI 4733-15/7 Procedural Publication Index for Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
39. TI 4733-15/9 Radiac Instrument Calibration Requirements
40. TI 4733-15/10 Special Calibration of Torque Wrenches
41. TI 4733-15/11 Infantry Weapons Gauge Calibrations Program
42. 4733-15/12 Calibration Requirements for Thermistor Mounts/Power Sensors Marine Corps Calibration Program
43. TI 4733-15/21 Survey Instrument Calibration
44. TI 4733-35/5 Calibration Equipment Recommendations for the Marine Corps Calibration Program
45. TI 4733-35/8 Marine Corps Transfer Standards Program
46. TI 4733-35/23 Naval and Marine Corps Calibration Laboratory Audit/Certification Manual
47. TI 5820-25/22 Electromagnetic Environmental Effects Procedures for Installation of Communication Equipment on United States Marine Corps Platforms
48. MCO 2410.2 Electromagnetic Environmental Effects Control Program
49. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control

and Safety
50. TM 9999-15/1 Electrostatic Discharge Awareness
51. TM 9999-15/2 Electrostatic Discharge Awareness
52. SI-4400-15/5 Packaging/Handling/Storage and Transportation of ESD Sensitive Items
53. TI-4400-15/1A Packaging, Handling, and Transportation of ESD Items
54. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair
55. TM 2000.15/1 Brief Description of US Marine Corps Communication-Electronic Equipment
56. TM 2000.OD/2 Principle Technical Characteristics of U.S. Marine Corps Communication-Electronics Equipment
57. TM 4795-12/1 Corrosion Prevention and Control
58. TM 4795-34/2 Corrosion Prevention and Control
59. TM-5410-14/1 Intermediate Maintenance Instructions Electronics Maintenance Complex
60. TM 5411-14/1 Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) Operation and Maintenance Instructions
61. TM-5411-14/P&2 EMI Shelter (Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) 10-Foot Rigid General Purpose Shelter Operation and Maintenance (Instructions with Repair Parts List)
62. CNSS 4000 Communication Security (COMSEC) Maintenance and Maintenance Training
63. DODI 8523.01 Communications Security
64. DODI 8570.01-M Information Assurance Workforce Improvement Program
65. CMS-5 Communication Security Material System (CMS) Cryptographic Equipment Information/Guidance manual
66. Electronic Key Management System (EKMS 1)

2800-ACT-2304: Supervise maintenance actions

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

MOS PERFORMING: 2831, 2834, 2862, 2874, 2887

GRADES: SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

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

STANDARD: In accordance with MCO P4790.2B, Chapter 3 and MCO P4790.2B, Appendices F and G.

PERFORMANCE STEPS:
1. Supervise maintenance personnel.
2. Manage maintenance resources, e.g. CLS, comm-elect and warranty requirements.
3. Analyze data: basic statistical procedures (identify trends) and database/spreadsheet utilization in the analysis of information.
4. Control maintenance production.
5. Maintain reports and records.
6. Perform quality control/quality assurance during the active maintenance

phase.

REFERENCES:

1. MCO 1200.17 Military Occupational Specialties Manual
2. 29 CFR 1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
3. Applicable technical manuals/publications
4. MCWP 3-40.3 Communications and Information Systems
5. MCWP 5-1 Marine Corps Planning Process
6. MPS Load Plan
7. Operational Order
8. UNIT SOP Unit's Standing Operating Procedures
9. Unit TO/E Table of Organization/Equipment
10. MCWP 4-24 Maintenance Operations
11. MCRP 4-11.3 Unit Embarkation Handbook
12. UM PLMS Publication Library Management System
13. MCO P5215.17 Marine Corps Technical Publications System
14. MCBul 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
15. MCO 3000.11 Marine Corps Automated Readiness Evaluation System
16. MCO 4400.16 Uniform Material Movement and Issue Priority System
17. MCO P4400.150 Consumer Level Supply Policy Manual
18. MCO P4400.151 Intermediate-Level Supply Management Policy Manual
19. MCO P4400.82F Regulated/Controlled Items Management Manual
20. MCO P4790.1 MIMMS Introduction Manual
21. MCO P4790.2 MIMMS Field Procedures Manual
22. TM 4700-15/1 Ground Equipment Record Procedures
23. DLA Customer Assistance Handbook
24. UM 4400-124 FMF SASSY Using Unit Procedures
25. UM 4400-60 Material Returns Program User's Manual
26. UM 4400-123 FMF SASSY Management Unit Procedures
27. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
28. MCO 4855.10 Product Quality Deficiency Reporting (PQDR)
29. MCO 4105.2 Marine Corps Warranty Program
30. ICE2 Statement of Requirements Document
31. Contracting Officer Representative (COR) ICE2 Handbook
32. DoDD 4151.18 Maintenance of Military Material
33. MCO 4733.1 Marine Corps Test, Measurement, Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
34. TM 10510-OD/1 General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Electronic Support Items and Tool Kits)
35. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
36. TI 4733-15/1 Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance
37. TI 4733-15/6 Test, Measurement and Diagnostic Equipment Calibration and Maintenance Support
38. TI 4733-15/7 Procedural Publication Index for Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
39. TI 4733-15/9 Radiac Instrument Calibration Requirements
40. TI 4733-15/10 Special Calibration of Torque Wrenches
41. TI 4733-15/11 Infantry Weapons Gauge Calibrations Program
42. 4733-15/12 Calibration Requirements for Thermistor Mounts/Power Sensors Marine Corps Calibration Program
43. TI 4733-15/21 Survey Instrument Calibration

44. TI 4733-35/5 Calibration Equipment Recommendations for the Marine Corps Calibration Program
45. TI 4733-35/8 Marine Corps Transfer Standards Program
46. TI 4733-35/23 Naval and Marine Corps Calibration Laboratory Audit/Certification Manual
47. TI 5820-25/22 Electromagnetic Environmental Effects Procedures for Installation of Communication Equipment on United States Marine Corps Platforms
48. MCO 2410.2 Electromagnetic Environmental Effects Control Program
49. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety
50. TM 9999-15/1 Electrostatic Discharge Awareness
51. TM 9999-15/2 Electrostatic Discharge Awareness
52. SI-4400-15/5 Packaging/Handling/Storage and Transportation of ESD Sensitive Items
53. TI-4400-15/1A Packaging, Handling, and Transportation of ESD Items
54. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair
55. TM 2000.15/1 Brief Description of US Marine Corps Communication-Electronic Equipment
56. TM 2000.OD/2 Principle Technical Characteristics of U.S. Marine Corps Communication-Electronics Equipment
57. TM 4795-12/1 Corrosion Prevention and Control
58. TM 4795-34/2 Corrosion Prevention and Control
59. TM-5410-14/1 Intermediate Maintenance Instructions Electronics Maintenance Complex
60. TM 5411-14/1 Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) Operation and Maintenance Instructions
61. TM-5411-14/P&2 EMI Shelter (Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) 10-Foot Rigid General Purpose Shelter Operation and Maintenance (Instructions with Repair Parts List)
62. CNSS 4000 Communication Security (COMSEC) Maintenance and Maintenance Training
63. DODI 8523.01 Communications Security
64. DODI 8570.01-M Information Assurance Workforce Improvement Program
65. CMS-5 Communication Security Material System (CMS) Cryptographic Equipment Information/Guidance manual
66. Electronic Key Management System (EKMS 1)

2800-ACT-2305: Prepare organic equipment for embarkation

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

MOS PERFORMING: 2821, 2831, 2834, 2844, 2846, 2847, 2862, 2871, 2874, 2887

GRADES: CPL, SGT

INITIAL TRAINING SETTING: MOJT

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

STANDARD: To maintain unit's 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.
8. Determine hazardous material movement requirements.

REFERENCES:
1. MCRP 4-11.3G Unit Embarkation Handbook
2. MCO P4000.51A Automatic Identification Technology Policy Manual
3. MCO P4030.19H Preparing Hazardous Materials for Military Air Shipments
4. MCO 4631.10A Operational Support Airlift Management
5. CMR Consolidated Memorandum Report
6. UNIT SOP Unit's Standing Operating Procedures
7. Unit TO/E Table of Organization/Equipment

SUPPORT REQUIREMENTS:

MATERIAL: Distance Learning Products Available:
1. MCI 045C, The Logistics/Embarkation Specialist
2. MCI 047D, Introduction to Amphibious Embarkation

2800-ACT-2306: Verify the operation of an analog electronic circuit

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

MOS PERFORMING: 2823, 2831, 2834, 2862, 2887

GRADES: SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, a complex analog electronic circuit, TMDE and tools.

STANDARD: To established circuit parameters.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Research and interpret data from the appropriate technical publications pertaining to the theory of operation for the equipment, associated components, ancillary devices and TMDE.
3. Interpret schematic diagrams for complex electronic circuits.
4. Identify possible faulty functions.
5. Perform input/output tests on possible faulty functions.

6. Record symptoms.
7. Localize the fault to a circuit.

REFERENCES:
1. Applicable technical manuals/publications
2. Electronic Devices and Circuits, Robert T. Paynter
3. Introductory Electric Circuits, Robert T. Paynter

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Oscilloscope
2. Scope Meter
3. MultiSim (circuit simulation software)

2800-ACT-2307: Verify the operation of a digital electronic circuit

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

MOS PERFORMING: 2823, 2831, 2834, 2862, 2887

GRADES: SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, a complex digital electronic circuit, TMDE and tools.

STANDARD: To established circuit parameters.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Research and interpret data from the appropriate technical publications pertaining to the theory of operation for the equipment, associated components, ancillary devices and TMDE.
3. Interpret schematic diagrams for complex electronic circuits.
4. Identify possible faulty functions.
5. Perform input/output tests on possible faulty functions.
6. Record symptoms.

REFERENCES:
1. Applicable technical manuals/publications
2. Digital Electronics, A Practical Approach, William Kleitz
3. Digital Principles and Applications, Malvino and Leach

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Oscilloscope
2. Scope Meter
3. MultiSim (circuit simulation software)

2800-ACT-2308: Diagnose complex electronic circuits

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

MOS PERFORMING: 2823, 2831, 2834, 2862, 2887

GRADES: SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, a complex electronic circuit, TMDE and tools.

STANDARD: To restore the circuit to established parameters.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Ensure proper handling of ESD sensitive components/printed circuit cards.
3. Research and interpret data from the appropriate technical publications pertaining to the circuit.
4. Interpret schematic diagrams for complex electronic circuits.
5. Calculate complex electronic circuit parameters.
6. Trace signal paths in complex electronic circuits.
7. Trace current/voltage paths in complex electronic circuits.
8. Measure circuit performance.
9. Analyze measured and calculated data.
10. Identify the fault.

REFERENCES:
1. Applicable technical manuals/publications
2. Electronic Devices and Circuits, Robert T. Paynter
3. Introductory Electric Circuits, Robert T. Paynter

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment
1. Oscilloscope
2. Scope Meter
3. MultiSim (circuit simulation software)

2800-ACT-2309: Splice fiber optic cable

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

MOS PERFORMING: 2821, 2823, 2831, 2834, 2844, 2846, 2847, 2862

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

INITIAL TRAINING SETTING: MOJT

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

STANDARD: To operate with a signal loss no greater than three decibels from end to end.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Research applicable technical data.
3. Measure cable performance.
4. Isolate faulty area(s).
5. Requisition repair parts, as required.
6. Splice cable, as required.
7. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. Applicable technical manuals/publications
2. FIBER OPTICS Understanding Fiber Optics (4th Edition)
3. SL-3-10156A Optical Time Domain Reflectometer, MW9070NV
4. SL-3-10785A Fiber Optic Tool Kit, Model 0801-8500
5. SL-3-10785B Fiber Optic Tool Kit, Model 0801-8510
6. MI 10785A-OD/1 Fiber Optic Tool Kit Upgrade for Model 0801-8500
7. SL-3-10853A Test Station, Electrical, Electronic Equipment (Electro/Fiber Optic)
8. SL-3-11088A Splicing Kit, Fiber Optic Cable TK-S121
9. TM-09006A-10/1 Fiber Optic AN/GSC-54
10. TM-09006A-25&P/2 Fiber Optic Cable Systems
11. TM 11027A-15/4 Instruction Guide Fiber Optic Light Source (Photonix)
12. TM 11027A-15/5 Instruction Guide Fiber Optic Power Meter (Photonix)
13. TM 09008A/09009A-10/1 Fiber Optic Cable Assemblies CX-13295/G
14. TM 09008A/09009A-23&P2 Unit and Direct Support Maintenance Manual, CX-13295
15. TM 09010A-_ Test Set, Optical Communications AN/GSM-317
16. TM 10156A-14&P Optical Time Domain Reflectometer, MW9070NV

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment
1. Optical communications test set
2. Visual fiber optic fault finder
3. Optical Time Domain Reflector (OTDR)
4. Fiber optic repair kit

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: This task applies to general fiber optic cable repair utilizing: mechanical fiber splice, fusion fiber splice or other specialized fiber splicing method.

2800-ACT-2310: Perform corrective maintenance on power supplies to the piece-part component level

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

MOS PERFORMING: 2821, 2831, 2846, 2847, 2862
GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: MOJT

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. Calculate circuit parameters.
5. Measure circuit performance.
6. Ensure proper handling of static sensitive components/printed circuit cards.
7. Isolate faulty components.
8. Perform alignments, as required.
9. Requisition parts, as required.
10. Remove/replace faulty components, as required.
11. Research authorized modification and technical instructions.
12. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. Applicable technical manuals/publications
2. Maintenance Float Catalog
3. SL 1-2/3 Index of Authorized Publications in Stock
4. SL-4 Repair, Maintenance, and Management Lists
5. TM 9999-15/1 ESD Awareness Electro-Static Discharge

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment
1. Oscilloscope
2. Multimeter
3. Power supply
4. Signal Generator
5. HYP-71 Auxiliary Power Supply
6. ASAPS-4 Power Supply
7. DC power converter
8. AC power converter

2800-ACT-2311: Perform limited corrective maintenance on communications security equipment associated with ground common communication systems

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

MOS PERFORMING: 2844, 2846, 2847

GRADES: PVT, PFC, LCPL, CPL, SGT
INITIAL TRAINING SETTING: MOJT

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. Adhere to cryptographic security regulations.
3. Ensure proper handling of static sensitive components/printed circuit cards, as required.
4. Connect faulty equipment to special test equipment, as required.
5. Trace functional block diagrams, as required.
6. Isolate faulty line shop replaceable unit (SRU)/chassis mounted components as required.
7. Requisition repair part, as required.
8. Remove/replace faulty components, as required.
9. Restore equipment to a fully operational status by substitution of LRU, as required.
10. Evacuate inoperative equipment to higher echelon, as required.
11. Apply authorized modifications and technical instructions.
12. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. 29 CFR1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
2. Applicable technical manuals/publications
3. CMS-5 COMSEC Material System Policy & Procedures Manual
4. EKMS-1_ CMS Policy and Procedures for Navy EKMS Tiers 2 & 3
5. FEDLOG Federal Logistic Data
6. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
7. SL 1-2/3 Index of Authorized Publications in Stock
8. TM 9999-15/1 ESD Awareness Electro-Static Discharge

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. TSEC/KG-194A Trunk Encryption Device
2. TSEC/KY-57 Speech Security Equipment (VINSON)
3. Data Transfer Device
4. TSEC/KY-99 Advanced Narrowband Digital Voice Terminal (ANDVT/MINTERM)
5. STX-34 Test Set
6. KIV-7_ Bulk Encryption Device
7. HYP-57/TSEC Vehicular Power Adapter
8. HYX-57/TSEC Wireline Adapter
9. ST-58 Fill/Vunson/KG-84
10. RYQ-99 Maintenance Kit

2800-OPS-2401: Install Marine Corps Expeditionary Shelter System (MCESS) components for field use

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

MOS PERFORMING: 2831, 2844, 2846, 2847, 2871, 2887

GRADES: PVT, PFC, LCPL, CPL

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, an EMI maintenance shelter, a mission and tools.

STANDARD: In accordance with TM 5410-14/1, Chapter 2.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Prepare the site.
3. Position shelter.
4. Level shelter.
5. Anchor the shelter.
6. Ground the shelter.
7. Complex shelters, as required.
8. Service and inspect shelters.
9. Camouflage equipment.
10. Verify EMI procedures are adhered to.
11. Verify cable connections.
12. Verify antenna installation, as required.
13. Connect environmental control units, as required.
14. Apply power.
15. Verify equipment operation.
16. Provide local security.

REFERENCES:
1. 29 CFR1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
2. Applicable technical manuals/publications
3. MCO P5090.2A Environmental Compliance and Protection Manual
4. SL-3-09271A Shelter, 20FT., EMI/EMC
5. SL-3-09272A Shelter, 10FT., EMI/EMC
6. SL-3-09273A Shelter, 10FT., Rigid/EMC
7. SL-3-09281A Shelter, 20FT., Rigid/EMC
8. SL-3-08996A Shelter, Shelter Assembly, Knockdown
9. SL-3-09000A Shelter, Joining Corridor
10. TM 2000.15/1 Brief Description of US Marine Corps Communication-Electronic Equipment
11. TM 2000.OD/2 Principle Technical Characteristics of U.S. Marine Corps Communication-Electronics Equipment
12. TM 5410 14 1 EMI Shelter (Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) Operation and Maintenance Instructions
13. TM 5411 14 P &2 EMI Shelter (Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) 10-Foot Rigid General Purpose Shelter Operation and Maintenance (Instructions with Repair Parts List)
14. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety (Aug 91)
15. TM 9999-15/1 ESD Awareness Electro-Static Discharge

2800-OPS-2402: Manage maintenance production

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

MOS PERFORMING: 2891, 2874, 2823

GRADES: MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

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

STANDARD: In accordance with MCO P4790-2_, Chapter 3, pages 3-1 to 3-25; MCO P4790-2_, Chapter 4; and MCO P4790-2_, Appendix F.

PERFORMANCE STEPS:

1. Analyze maintenance phase productivity (acceptance, induction, active maintenance, closeout).
2. Analyze workload.
3. Determine maintenance requirements.
4. Establish maintenance priorities.
5. Establish maintenance functions (PMCS, CM, MODS, CAL).
6. Monitor maintenance cycle times and workflow.
7. Manage maintenance information.
8. Evaluate external analysis.
9. Determine inspection requirements.
10. Manage equipment recovery, evacuation, and disposition processes.
11. Perform maintenance management troubleshooting as required.

REFERENCES:

1. MCO 1200.17 Military Occupational Specialties Manual
2. 29 CFR 1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
3. Applicable technical manuals/publications
4. MCWP 3-40.3 Communications and Information Systems
5. MCWP 5-1 Marine Corps Planning Process
6. MPS Load Plan
7. Operational Order
8. UNIT SOP Unit's Standing Operating Procedures
9. Unit TO/E Table of Organization/Equipment
10. MCWP 4-24 Maintenance Operations
11. MCRP 4-11.3 Unit Embarkation Handbook
12. UM PLMS Publication Library Management System
13. MCO P5215.17 Marine Corps Technical Publications System
14. MCBul 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
15. MCO 3000.11 Marine Corps Automated Readiness Evaluation System
16. MCO 4400.16 Uniform Material Movement and Issue Priority System
17. MCO P4400.150 Consumer Level Supply Policy Manual
18. MCO P4400.151 Intermediate-Level Supply Management Policy Manual
19. MCO P4400.82F Regulated/Controlled Items Management Manual
20. MCO P4790.1 MIMMS Introduction Manual
21. MCO P4790.2 MIMMS Field Procedures Manual
22. TM 4700-15/1 Ground Equipment Record Procedures
23. DLA Customer Assistance Handbook
24. UM 4400-124 FMF SASSY Using Unit Procedures

25. UM 4400-60 Material Returns Program User's Manual
26. UM 4400-123 FMF SASSY Management Unit Procedures
27. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
28. MCO 4855.10 Product Quality Deficiency Reporting (PQDR)
29. MCO 4105.2 Marine Corps Warranty Program
30. ICE2 Statement of Requirements Document
31. Contracting Officer Representative (COR) ICE2 Handbook
32. DoDD 4151.18 Maintenance of Military Material
33. MCO 4733.1 Marine Corps Test, Measurement, Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
34. TM 10510-OD/1 General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Electronic Support Items and Tool Kits)
35. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
36. TI 4733-15/1 Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance
37. TI 4733-15/6 Test, Measurement and Diagnostic Equipment Calibration and Maintenance Support
38. TI 4733-15/7 Procedural Publication Index for Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
39. TI 4733-15/9 Radiac Instrument Calibration Requirements
40. TI 4733-15/10 Special Calibration of Torque Wrenches
41. TI 4733-15/11 Infantry Weapons Gauge Calibrations Program
42. 4733-15/12 Calibration Requirements for Thermistor Mounts/Power Sensors Marine Corps Calibration Program
43. TI 4733-15/21 Survey Instrument Calibration
44. TI 4733-35/5 Calibration Equipment Recommendations for the Marine Corps Calibration Program
45. TI 4733-35/8 Marine Corps Transfer Standards Program
46. TI 4733-35/23 Naval and Marine Corps Calibration Laboratory Audit/Certification Manual
47. TI 5820-25/22 Electromagnetic Environmental Effects Procedures for Installation of Communication Equipment on United States Marine Corps Platforms
48. MCO 2410.2 Electromagnetic Environmental Effects Control Program
49. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety
50. TM 9999-15/1 Electrostatic Discharge Awareness
51. TM 9999-15/2 Electrostatic Discharge Awareness
52. SI-4400-15/5 Packaging/Handling/Storage and Transportation of ESD Sensitive Items
53. TI-4400-15/1A Packaging, Handling, and Transportation of ESD Items
54. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair
55. TM 2000.15/1 Brief Description of US Marine Corps Communication-Electronic Equipment
56. TM 2000.OD/2 Principle Technical Characteristics of U.S. Marine Corps Communication-Electronics Equipment
57. TM 4795-12/1 Corrosion Prevention and Control
58. TM 4795-34/2 Corrosion Prevention and Control
59. TM-5410-14/1 Intermediate Maintenance Instructions Electronics Maintenance Complex
60. TM 5411-14/1 Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) Operation and Maintenance Instructions
61. TM-5411-14/P&2 EMI Shelter (Marine Corps Expeditionary Shelter System

(MCESS) (Small Shelter Family) 10-Foot Rigid General Purpose Shelter Operation and Maintenance (Instructions with Repair Parts List)
62. CNSS 4000 Communication Security (COMSEC) Maintenance and Maintenance Training
63. DODI 8523.01 Communications Security
64. DODI 8570.01-M Information Assurance Workforce Improvement Program
65. CMS-5 Communication Security Material System (CMS) Cryptographic Equipment Information/Guidance manual
66. Electronic Key Management System (EKMS 1)

2800-TRNG-2501: Manage training for ground electronics maintenance personnel

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

MOS PERFORMING: 2823, 2831, 2834, 2862, 2874, 2887, 2891

GRADES: SSGT, GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, equipment, personnel, training records and the unit's training plan.

STANDARD: To ensure MOS sustainment training is being conducted in accordance with MCO P3500.72A and NAVMC 3500.6A.

PERFORMANCE STEPS:
1. Identify training strengths and weaknesses of unit personnel.
2. Establish training priorities: mission oriented training, skill progression training, skill sustainment training, and professional development training.
3. Devise training plan to increase skill level of personnel/unit: communication security, mission and organization of command, maintenance of files and logs, and troubleshooting.
4. Determine type and frequency of training to be conducted on an individual/unit basis.
5. Supervise required training.
6. Provide training, as required.
7. Provide supervision at all levels during conduct of training.
8. Evaluate skill levels attained against those established.
9. Document training, as required.

REFERENCES:
1. Applicable technical manuals/publications
2. MCO 1200.17 MOS Manual
3. NAVMC 3500.6A Occupational Field 2800 Ground Electronics Maintenance Training and Readiness Manual
4. MCO 1553.3A Unit Training Manual
5. MCO P3500.72 Marine Corps Ground Training & Readiness Program
6. MCO P4790.2C MIMMS Field Procedures Manual
7. MCRP 3-0A Unit Training Management Guide
8. MCRP 3-0B How to Conduct Training

9. MCWP 3-40.3 Communications and Information Systems
10. UNIT SOP Unit's Standing Operating Procedures
11. Higher Headquarters Directives
12. Unit Training Plan
13. MOS Roadmaps
14. TECOMO 1500.1
15. MOS Roadmap Program

2800 GROUND T&R MANUAL

CHAPTER 3

MOS 2802 INDIVIDUAL EVENTS

2800 GROUND T&R MANUAL

CHAPTER 3

MOS 2802 INDIVIDUAL EVENTS

3000. PURPOSE. This chapter contains individual training events for MOS 2802, Electronics Maintenance Officer.

3001. INDIVIDUAL SKILLS

1. Core skills are basic individual skills that make a Marine and qualify them for an MOS. They are the 1000 level skills introduced in the entry level training in the formal schools and refined in operational units.

2. Core Plus Skills are advanced individual skills that are environment, mission, rank or billet specific. They are the 2000 level skills introduced in the entry level managed on the job training in operational units and advanced formal schools training.

3002. EVENT CODING. Events in the T&R Manual are depicted with an 11 or 12 digit alphanumeric system, i.e. XXXX-XXXX-XXXX, utilizing the following methodology:

a. Field one - Each event starts with 28XX. 2800 indicates that the event is a core capability for all Marines within the occupational field. 2844 indicates the event is for 2844, Ground Communications Organizational Repairer, etc.

b. Field two - This field is alpha characters indicating a functional area. The functional areas for this chapter are listed below:

Functional Area	Field Name	Example
Maintenance Planning	PLAN	2844-PLAN-XXXX
Maintenance Administration	ADMN	2844-ADMN-XXXX
Maintenance Actions	ACT	2844-ACT-XXXX
Maintenance Operations	OPS	2844-OPS-XXXX
Maintenance Training	TRNG	2844-TRNG-XXXX

c. Field three - All individual events within T&R Manuals are either 1000-level events that are taught at MOS-producing formal schools or 2000-level events that are taught at advanced-level schools or are MOJT. The first digit indicates whether it is a core (1) or core plus (2) event.

The second digit indicates the associated field and the last two digits indicate the task number. 2303 indicates that it is a core plus task and it is the third task within the Maintenance Actions functional area for that MOS. This chapter contains both level events.

MOS	Field Name	Associated Field Number	Core/ Core Plus	Task	Example
2800	PLAN	101-199	2	1	2800-PLAN-2101
2871	ADMN	201-299	1	4	2871-ADMN-1201
2846	ACT	301-399	2	3	2846-ACT-2303
2821	OPS	401-499	1	2	2821-OPS-1401
2805	TRNG	501-599	2	1	2805-TRNG-2501

3003. INDEX OF 2000-LEVEL EVENTS

3004. 2000-LEVEL EVENTS

2802-PLAN-2101: Plan for the deployment of a maintenance unit

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

MOS PERFORMING: 2802

GRADES: CAPT, MAJ

INITIAL TRAINING SETTING: MOJT

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

STANDARD: To provide task organized maintenance in support of MAGTF Operations in accordance with MCO P4790.2, Appendix E.

PERFORMANCE STEPS:
1. Review warning order.
2. Review Commander's guidance.
3. Review Table of Organization and Equipment
4. Identify support requirements.
5. Identify CLS and warranty requirements.
6. Establish class IX requirements.
7. Establish CLS spares requirements.
8. Submit embarkation requirements.
9. Provide input for Operational Plan.
10. Determine and submit power requirements.
11. Provide input for load plans for personnel and equipment.
12. Arrange for special material handling and transportation of equipment, as required.
13. Project site requirements.
14. Determine security/defense requirements.

REFERENCES:
1. MCO 1200.17 Military Occupational Specialties Manual
2. 29 CFR 1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
3. Applicable technical manuals/publications
4. MCWP 3-40.3 Communications and Information Systems
5. MCWP 5-1 Marine Corps Planning Process
6. MPS Load Plan
7. Operational Order
8. UNIT SOP Unit's Standing Operating Procedures
9. Unit TO/E Table of Organization/Equipment
10. MCWP 4-24 Maintenance Operations
11. MCRP 4-11.3 Unit Embarkation Handbook
12. UM PLMS Publication Library Management System
13. MCO P5215.17 Marine Corps Technical Publications System
14. MCBul 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
15. MCO 3000.11 Marine Corps Automated Readiness Evaluation System
16. MCO 4400.16 Uniform Material Movement and Issue Priority System

17. MCO P4400.150 Consumer Level Supply Policy Manual
18. MCO P4400.151 Intermediate-Level Supply Management Policy Manual
19. MCO P4400.82F Regulated/Controlled Items Management Manual
20. MCO P4790.1 MIMMS Introduction Manual
21. MCO P4790.2 MIMMS Field Procedures Manual
22. TM 4700-15/1 Ground Equipment Record Procedures
23. DLA Customer Assistance Handbook
24. UM 4400-124 FMF SASSY Using Unit Procedures
25. UM 4400-60 Material Returns Program User's Manual
26. UM 4400-123 FMF SASSY Management Unit Procedures
27. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
28. MCO 4855.10 Product Quality Deficiency Reporting (PQDR)
29. MCO 4105.2 Marine Corps Warranty Program
30. ICE2 Statement of Requirements Document
31. Contracting Officer Representative (COR) ICE2 Handbook
32. DoDD 4151.18 Maintenance of Military Material
33. MCO 4733.1 Marine Corps Test, Measurement, Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
34. TM 10510-OD/1 General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Electronic Support Items and Tool Kits)
35. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
36. TI 4733-15/1 Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance
37. TI 4733-15/6 Test, Measurement and Diagnostic Equipment Calibration and Maintenance Support
38. TI 4733-15/7 Procedural Publication Index for Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
39. TI 4733-15/9 Radiac Instrument Calibration Requirements
40. TI 4733-15/10 Special Calibration of Torque Wrenches
41. TI 4733-15/11 Infantry Weapons Gauge Calibrations Program
42. 4733-15/12 Calibration Requirements for Thermistor Mounts/Power Sensors Marine Corps Calibration Program
43. TI 4733-15/21 Survey Instrument Calibration
44. TI 4733-35/5 Calibration Equipment Recommendations for the Marine Corps Calibration Program
45. TI 4733-35/8 Marine Corps Transfer Standards Program
46. TI 4733-35/23 Naval and Marine Corps Calibration Laboratory Audit/Certification Manual
47. TI 5820-25/22 Electromagnetic Environmental Effects Procedures for Installation of Communication Equipment on United States Marine Corps Platforms
48. MCO 2410.2 Electromagnetic Environmental Effects Control Program
49. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety
50. TM 9999-15/1 Electrostatic Discharge Awareness
51. TM 9999-15/2 Electrostatic Discharge Awareness
52. SI-4400-15/5 Packaging/Handling/Storage and Transportation of ESD Sensitive Items
53. TI-4400-15/1A Packaging, Handling, and Transportation of ESD Items
54. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair
55. TM 2000.15/1 Brief Description of US Marine Corps Communication-Electronic Equipment
56. TM 2000.OD/2 Principle Technical Characteristics of U.S. Marine Corps

Communication-Electronics Equipment
57. TM 4795-12/1 Corrosion Prevention and Control
58. TM 4795-34/2 Corrosion Prevention and Control
59. TM-5410-14/1 Intermediate Maintenance Instructions Electronics Maintenance Complex
60. TM 5411-14/1 Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) Operation and Maintenance Instructions
61. TM-5411-14/P&2 EMI Shelter (Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) 10-Foot Rigid General Purpose Shelter Operation and Maintenance (Instructions with Repair Parts List)
62. CNSS 4000 Communication Security (COMSEC) Maintenance and Maintenance Training
63. DODI 8523.01 Communications Security
64. DODI 8570.01-M Information Assurance Workforce Improvement Program
65. CMS-5 Communication Security Material System (CMS) Cryptographic Equipment Information/Guidance manual
66. Electronic Key Management System (EKMS 1)

2802-PLAN-2102: Perform duties of an Electronics Maintenance Officer for a Marine Expeditionary Force/Major Subordinate Command Headquarters

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

MOS PERFORMING: 2802

GRADES: CAPT, MAJ, LTCOL

INITIAL TRAINING SETTING: MOJT

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

STANDARD: In accordance with MCWP 4-11.4.

PERFORMANCE STEPS:
1. Advise the Commander on the readiness and maintenance status of ground electronics equipment.
2. Advise the AC/S G-6 on the readiness and maintenance status of ground electronics equipment.
2. Coordinate with MCSC on the fielding and sustaining of ground electronics equipment.
3. Advise and facilitate MCLC on the maintenance/supply support and life-cycle management of ground electronics equipment.
4. Facilitate the AC/S G-4 and higher headquarters as the ground electronics equipment commodity manager.
5. Direct and facilitate appropriate unit inspections and training as required.
6. Coordinate with the 2800 Occupational Field sponsor and the monitor on the proper assignment of 2800 officers.

REFERENCES:
1. Applicable technical manuals/publications
2. MCO P4400.150E Consumer-Level Supply Policy Manual (Jun 99)
3. MCO P4790.2C MIMMS Field Procedures Manual (Jul 94)

4. MCWP 4-11.4 Maintenance Operations
5. TM 4700-15/1 Marine Corps Ground Equipment Record Procedures
6. Unit TO/E Table of Organization/Equipment
7. Higher Headquarters Directives

2802-PLAN-2103: Perform the duties of Program Manager, TMDE

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

MOS PERFORMING: 2802

GRADES: LTCOL

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. Review duties.
2. Report cost, schedule and performance data.
3. Manage fiscal requirements in the acquisition and support of TMDE.
4. Brief required personnel on TMDE and maintenance issues/challenges.
5. Ensure training requirements are established, defined and met.
6. Plan life-cycle sustainment strategy for TMDE procured.

REFERENCES:
1. Applicable technical manuals/publications
2. Higher Headquarters Directives
3. MCO 4105.2 Marine Corps Warranty Program
4. ICE2 Statement of Requirements Document
5. Contracting Officer Representative (COR) ICE2 Handbook
6. DoDD 5000.01 Defense Acquisition System
7. DoDD 5000.02 Defense Acquisition Regulations
8. MCO 4200.33 Contractor Logistics Support (CLS) for Ground Equipment, Ground Weapons Systems, Munitions, and Information Systems
9. MCO 4081.2 Performance Based Logistics (PBL)
10. MCO 5000.19 Marine Corps Systems Command
11. TM 4420-15/1 Lifecycle Logistics and the Material Fielding Process
12. MCO 4000.57 Total Life Cycle Management
13. MCO 4000.58 Marine Corps Logistics Command
14. CJCSI 3170.01 Joint Capabilities Integration Development System
15. CJCSM 3170.01 Operation of the Joint Capabilities Integration Development System
16. MCO 3900.15 Expeditionary Force Development System
17. Title 10 USC
18. MCO 5000.19 Marine Corps Systems Command
19. SECNAVINST 5000.2 Implementation and Operation of the Defense Acquisition System and the Joint Capabilities Integration and Development System

20. SECNAVINST 4105.1 INDEPENDENT LOGISTICS ASSESSMENT (ILA) AND CERTIFICATION REQUIREMENTS
21. SECNAVINST 5420.188 ACQUISITION CATEGORY (ACAT) PROGRAM DECISION PROCESS

2802-PLAN-2104: Perform the duties of an Electronics Maintenance Management Officer for Installations & Logistics

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

MOS PERFORMING: 2802

GRADES: MAJ

INITIAL TRAINING SETTING: MOJT

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

STANDARD: In accordance with MCO 4000.57 paragraph 4(b), MCO P4790.2C_, Chapter 1 and MCO P4790.2C_, Appendix A.

PERFORMANCE STEPS:
1. Participate in the implementation and execution of program level TLCM for all communications-electronics equipment.
2. Advocate for the ground electronics field during Joint Capabilities Integration and Development System; Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities (DOTMLPF); DOTMLPF Working Group; Requirements Transition; System Acquisition, and Planning, Programming, Budgeting and Execution System processes.
3. Collaborate with stakeholders in assessing impact of new communication systems or equipment on Military Occupational Specialties (MOS) requirements.
4. Verify appropriateness of assigned tasks for the identified MOS and adequacy of structure.
5. Serve as the OccFld advocate for CBM+, Autonomic Logistics/Prognostics, Performance Based Logistics, Design-in Reliability, Maintainability, and Supportability, Direct Vendor Delivery, logistics footprint, depot maintenance, logistics operational architecture, and automated identification technology planning.
6. Participate as a member in the logistics assessment process.
7. Provide input for direct enterprise level readiness analysis and assessments.
8. Serve as the principal OccFld representative for lifecycle sustainment, capability development and acquisition processes.
9. Ensure logistics support of fielded equipment through integration into enterprise level logistics systems, to include supply and maintenance.

REFERENCES:
1. Applicable technical manuals/publications
2. Higher Headquarters Directives
3. MCO 4105.2 Marine Corps Warranty Program
4. ICE2 Statement of Requirements Document
5. Contracting Officer Representative (COR) ICE2 Handbook
6. DoDD 5000.01 Defense Acquisition System

7. DoDD 5000.02 Defense Acquisition Regulations
8. MCO 4200.33 Contractor Logistics Support (CLS) for Ground Equipment, Ground Weapons Systems, Munitions, and Information Systems
9. MCO 4081.2 Performance Based Logistics (PBL)
10. TM 4420-15/1 Lifecycle Logistics and the Material Fielding Process
11. MCO 4000.57 Total Life Cycle Management
12. MCO 4000.58 Marine Corps Logistics Command
13. CJCSI 3170.01 Joint Capabilities Integration Development System
14. CJCSM 3170.01 Operation of the Joint Capabilities Integration Development System
15. MCO 3900.15 Expeditionary Force Development System
16. Title 10 USC
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. SECNAVINST 4105.1 INDEPENDENT LOGISTICS ASSESSMENT (ILA) AND CERTIFICATION REQUIREMENTS
21. SECNAVINST 5420.188 ACQUISITION CATEGORY (ACAT) PROGRAM DECISION PROCESS

2802-PLAN-2105: Perform the duties of an Electronics Maintenance Requirements Officer

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

MOS PERFORMING: 2802

GRADES: MAJ

INITIAL TRAINING SETTING: MOJT

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

STANDARD: In accordance with the JCIDS process.

PERFORMANCE STEPS:
1. Review duties.
2. Review issues and policies.
3. Coordinate and manage the Marine Corps position on the operational requirements for communication-electronic maintenance related systems and maintenance aspects of other C4 systems.
4. Serve as the operating force sponsor and MCCDC liaison to MCSC in the matters of electronic maintenance and appropriate C4 operational requirements.
5. Coordinate with counterparts in other MCCDC divisions when C4 equipment requirements have implications for doctrine, training and force structure.
6. Participate in the development of concepts of employment for C4 operational requirements documents.
7. Assist in mission area analysis for mission areas impacted by communication-electronics maintenance.
8. Coordinate the staffing of Marine Corps and other service C4 requirements documents.

REFERENCES:
1. Applicable technical manuals/publications
2. Higher Headquarters Directives
3. MCO 4105.2 Marine Corps Warranty Program
4. ICE2 Statement of Requirements Document
5. Contracting Officer Representative (COR) ICE2 Handbook
6. DoDD 5000.01 Defense Acquisition System
7. DoDD 5000.02 Defense Acquisition Regulations
8. MCO 4200.33 Contractor Logistics Support (CLS) for Ground Equipment, Ground Weapons Systems, Munitions, and Information Systems
9. MCO 4081.2 Performance Based Logistics (PBL)
10. TM 4420-15/1 Lifecycle Logistics and the Material Fielding Process
11. MCO 4000.57 Total Life Cycle Management
12. MCO 4000.58 Marine Corps Logistics Command
13. CJCSI 3170.01 Joint Capabilities Integration Development System
14. CJCSM 3170.01 Operation of the Joint Capabilities Integration Development System
15. MCO 3900.15 Expeditionary Force Development System
16. Title 10 USC
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
20. SECNAVINST 4105.1 INDEPENDENT LOGISTICS ASSESSMENT (ILA) AND CERTIFICATION REQUIREMENTS
21. SECNAVINST 5420.188 ACQUISITION CATEGORY (ACAT) PROGRAM DECISION PROCESS

2802-PLAN-2106: Command a Training Company/Detachment

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

MOS PERFORMING: 2802

GRADES: MAJ

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, a command, Commander's guidance and a table of organization and equipment.

STANDARD: To provide basically trained Marines in the organizational and intermediate maintenance of ground electronics equipment and to provide qualified maintainers and maintenance supervisors to the Operating Forces in accordance with MCO 1553.1_; MCO 1553.2_; and MCO 1553.5_.

PERFORMANCE STEPS:
1. Review present TO/E and policies/procedures.
2. Develop/revise policies and procedures, as required.
3. Direct the establishment/revision of formal courses, as required.
4. Manage formal student training.
5. Determine resource requirements to meet the current/future formal training requirements.
6. Review/submit programs of instructions and course descriptive data for formal training.

7. Review/approve course content review Board recommendations, as required.
8. Coordinate issues requiring approval of higher headquarters, as required.
9. Direct course/curriculum evaluation, as required.

REFERENCES:
1. Applicable Unit Policies and Procedures
2. MCO 1553.1B The Marine Corps Training and Education System
3. MCO 1553.2_ Management of Marine Corps Formal Schools and Training Detachments (Nov 03)
4. MCO 1553.5_ Marine Corps Training and Education Evaluation
5. NAVMC 3500.6 Ground Electronics Maintenance Training and Readiness Manual
6. SAT MANUAL Systems Approach to Training Manual
7. Unit TO/E Table of Organization/Equipment
8. Higher Headquarters Directives

2802-PLAN-2107: Sponsor the 2800 Occupational Field

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

MOS PERFORMING: 2802

GRADES: LTCOL

INITIAL TRAINING SETTING: MOJT

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

STANDARD: In accordance with MCO 5311.11C.

PERFORMANCE STEPS:
1. Manage strengths/weaknesses and issues of individual MOSs in the 2800 OccFld.
2. Chair the C4 Maintenance Advisory Group.
3. Perform duties as principle staff advisor for ground electronics matters to the Director, C4.
4. Provide guidance to the officer and enlisted monitors for 2800 Marines.
5. Brief the promotion boards on 2800 Marines.
6. Provide expert C4 OccFld input, as required, to the T/O development and change process.
7. In coordination with DC, M&RA, advise CMC on all manpower related issues pertaining to the Ground Electronics Occupational Field.
8. Advise CMC on proposed training allocations by providing expert C4 Ground Electronics OccFld input, as required, and coordinating with Training and Education Command for C4 training.
9. Establish long-term goals and recommend policy that will guide ground communication-electronics maintenance planning efforts and maximize support for C4 systems into the future.
10. Identify and shape issues to be worked with Training and Education Command, Manpower and Reserve Affairs and Materiel Command.
11. Coordinate development and maintenance of strategic Manpower and Training Plans for the 28 Occupational Field.
12. Recommend training programs based on new fieldings and realignment of legacy systems.

13. Examine ways to reduce training time, without jeopardizing training standards and improvements to training.
14. Recommend maintenance policy and concepts, based on existing and emerging technologies and capabilities.
15. Respond to the needs of the supporting establishments and operational forces by drawing on the collective experience and knowledge of the C4 MAG membership and representatives from the C4 community to recommend ideas and solutions to meet communication-electronics maintenance support challenges and requirements.

REFERENCES:

1. MCO 1200.17 Military Occupational Specialties Manual
2. 29 CFR 1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
3. Applicable technical manuals/publications
4. MCWP 3-40.3 Communications and Information Systems
5. MCWP 5-1 Marine Corps Planning Process
6. MPS Load Plan
7. Operational Order
8. UNIT SOP Unit's Standing Operating Procedures
9. Unit TO/E Table of Organization/Equipment
10. MCWP 4-24 Maintenance Operations
11. MCRP 4-11.3 Unit Embarkation Handbook
12. UM PLMS Publication Library Management System
13. MCO P5215.17 Marine Corps Technical Publications System
14. MCBul 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
15. MCO 3000.11 Marine Corps Automated Readiness Evaluation System
16. MCO 4400.16 Uniform Material Movement and Issue Priority System
17. MCO P4400.150 Consumer Level Supply Policy Manual
18. MCO P4400.151 Intermediate-Level Supply Management Policy Manual
19. MCO P4400.82F Regulated/Controlled Items Management Manual
20. MCO P4790.1 MIMMS Introduction Manual
21. MCO P4790.2 MIMMS Field Procedures Manual
22. TM 4700-15/1 Ground Equipment Record Procedures
23. DLA Customer Assistance Handbook
24. UM 4400-124 FMF SASSY Using Unit Procedures
25. UM 4400-60 Material Returns Program User's Manual
26. UM 4400-123 FMF SASSY Management Unit Procedures
27. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
28. MCO 4855.10 Product Quality Deficiency Reporting (PQDR)
29. MCO 4105.2 Marine Corps Warranty Program
30. ICE2 Statement of Requirements Document
31. Contracting Officer Representative (COR) ICE2 Handbook
32. DoDD 4151.18 Maintenance of Military Material
33. MCO 4733.1 Marine Corps Test, Measurement, Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
34. TM 10510-OD/1 General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Electronic Support Items and Tool Kits)
35. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
36. TI 4733-15/1 Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance
37. TI 4733-15/6 Test, Measurement and Diagnostic Equipment Calibration and Maintenance Support

38. TI 4733-15/7 Procedural Publication Index for Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
39. TI 4733-15/9 Radiac Instrument Calibration Requirements
40. TI 4733-15/10 Special Calibration of Torque Wrenches
41. TI 4733-15/11 Infantry Weapons Gauge Calibrations Program
42. 4733-15/12 Calibration Requirements for Thermistor Mounts/Power Sensors Marine Corps Calibration Program
43. TI 4733-15/21 Survey Instrument Calibration
44. TI 4733-35/5 Calibration Equipment Recommendations for the Marine Corps Calibration Program
45. TI 4733-35/8 Marine Corps Transfer Standards Program
46. TI 4733-35/23 Naval and Marine Corps Calibration Laboratory Audit/Certification Manual
47. TI 5820-25/22 Electromagnetic Environmental Effects Procedures for Installation of Communication Equipment on United States Marine Corps Platforms
48. MCO 2410.2 Electromagnetic Environmental Effects Control Program
49. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety
50. TM 9999-15/1 Electrostatic Discharge Awareness
51. TM 9999-15/2 Electrostatic Discharge Awareness
52. SI-4400-15/5 Packaging/Handling/Storage and Transportation of ESD Sensitive Items
53. TI-4400-15/1A Packaging, Handling, and Transportation of ESD Items
54. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair
55. TM 2000.15/1 Brief Description of US Marine Corps Communication-Electronic Equipment
56. TM 2000.OD/2 Principle Technical Characteristics of U.S. Marine Corps Communication-Electronics Equipment
57. TM 4795-12/1 Corrosion Prevention and Control
58. TM 4795-34/2 Corrosion Prevention and Control
59. TM-5410-14/1 Intermediate Maintenance Instructions Electronics Maintenance Complex
60. TM 5411-14/1 Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) Operation and Maintenance Instructions
61. TM-5411-14/P&2 EMI Shelter (Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) 10-Foot Rigid General Purpose Shelter Operation and Maintenance (Instructions with Repair Parts List)
62. CNSS 4000 Communication Security (COMSEC) Maintenance and Maintenance Training
63. DODI 8523.01 Communications Security
64. DODI 8570.01-M Information Assurance Workforce Improvement Program
65. CMS-5 Communication Security Material System (CMS) Cryptographic Equipment Information/Guidance manual
66. Electronic Key Management System (EKMS 1)

2802-ADMN-2201: Allocate maintenance resources

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

MOS PERFORMING: 2802

GRADES: CAPT, MAJ, LTCOL

INITIAL TRAINING SETTING: MOJT

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

STANDARD: To maintain equipment and personnel readiness, in accordance with MCO P4790.2_, Chapter 2 and MCO P3000.13D.

PERFORMANCE STEPS:
1. Review mission.
2. Review existing funds available.
3. Determine facility, personnel, and equipment requirements.
4. Determine maintenance, repair part and training funding requirements.
5. Oversee the execution of maintenance contracts.
6. Implement policy for the support of new equipment.
7. Develop cost estimates for projects, maintenance and training.
8. Develop/plan a budget based on future requirements.
9. Execute the approved budget.

REFERENCES:
1. Applicable technical manuals/publications
2. MCO P7100.8K Field Budget Guidance Manual
3. Current Budget Data
4. Maintenance Contracts
5. Material Fielding Plans
6. Program Objective Memorandums
7. TEEP

2802-ACT-2301: Command maintenance organizations

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

MOS PERFORMING: 2802

GRADES: CAPT; MAJ

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, a command, Commander's Intent and a table of organization and equipment.

STANDARD: In accordance with MCO P4790.2_, page 1-14 through 1-21 and the unit SOP.

PERFORMANCE STEPS:
1. Establish standards or procedures for performing a technical function.
2. Provide professionally trained and qualified personnel to perform a technical function.
3. Provide professional advice, guidance, or assistance.
4. Perform a technical function as a service to the command.

5. Implement policies and procedures.
6. Supervise personnel and equipment maintenance.

REFERENCES:

1. MCO 1200.17 Military Occupational Specialties Manual
2. 29 CFR 1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
3. Applicable technical manuals/publications
4. MCWP 3-40.3 Communications and Information Systems
5. MCWP 5-1 Marine Corps Planning Process
6. MPS Load Plan
7. Operational Order
8. UNIT SOP Unit's Standing Operating Procedures
9. Unit TO/E Table of Organization/Equipment
10. MCWP 4-24 Maintenance Operations
11. MCRP 4-11.3 Unit Embarkation Handbook
12. UM PLMS Publication Library Management System
13. MCO P5215.17 Marine Corps Technical Publications System
14. MCBul 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
15. MCO 3000.11 Marine Corps Automated Readiness Evaluation System
16. MCO 4400.16 Uniform Material Movement and Issue Priority System
17. MCO P4400.150 Consumer Level Supply Policy Manual
18. MCO P4400.151 Intermediate-Level Supply Management Policy Manual
19. MCO P4400.82F Regulated/Controlled Items Management Manual
20. MCO P4790.1 MIMMS Introduction Manual
21. MCO P4790.2 MIMMS Field Procedures Manual
22. TM 4700-15/1 Ground Equipment Record Procedures
23. DLA Customer Assistance Handbook
24. UM 4400-124 FMF SASSY Using Unit Procedures
25. UM 4400-60 Material Returns Program User's Manual
26. UM 4400-123 FMF SASSY Management Unit Procedures
27. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
28. MCO 4855.10 Product Quality Deficiency Reporting (PQDR)
29. MCO 4105.2 Marine Corps Warranty Program
30. ICE2 Statement of Requirements Document
31. Contracting Officer Representative (COR) ICE2 Handbook
32. DoDD 4151.18 Maintenance of Military Material
33. MCO 4733.1 Marine Corps Test, Measurement, Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
34. TM 10510-OD/1 General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Electronic Support Items and Tool Kits)
35. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
36. TI 4733-15/1 Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance
37. TI 4733-15/6 Test, Measurement and Diagnostic Equipment Calibration and Maintenance Support
38. TI 4733-15/7 Procedural Publication Index for Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
39. TI 4733-15/9 Radiac Instrument Calibration Requirements
40. TI 4733-15/10 Special Calibration of Torque Wrenches
41. TI 4733-15/11 Infantry Weapons Gauge Calibrations Program
42. 4733-15/12 Calibration Requirements for Thermistor Mounts/Power Sensors Marine Corps Calibration Program

43. TI 4733-15/21 Survey Instrument Calibration
44. TI 4733-35/5 Calibration Equipment Recommendations for the Marine Corps Calibration Program
45. TI 4733-35/8 Marine Corps Transfer Standards Program
46. TI 4733-35/23 Naval and Marine Corps Calibration Laboratory Audit/Certification Manual
47. TI 5820-25/22 Electromagnetic Environmental Effects Procedures for Installation of Communication Equipment on United States Marine Corps Platforms
48. MCO 2410.2 Electromagnetic Environmental Effects Control Program
49. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety
50. TM 9999-15/1 Electrostatic Discharge Awareness
51. TM 9999-15/2 Electrostatic Discharge Awareness
52. SI-4400-15/5 Packaging/Handling/Storage and Transportation of ESD Sensitive Items
53. TI-4400-15/1A Packaging, Handling, and Transportation of ESD Items
54. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair
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56. TM 2000.OD/2 Principle Technical Characteristics of U.S. Marine Corps Communication-Electronics Equipment
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58. TM 4795-34/2 Corrosion Prevention and Control
59. TM-5410-14/1 Intermediate Maintenance Instructions Electronics Maintenance Complex
60. TM 5411-14/1 Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) Operation and Maintenance Instructions
61. TM-5411-14/P&2 EMI Shelter (Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) 10-Foot Rigid General Purpose Shelter Operation and Maintenance (Instructions with Repair Parts List)
62. CNSS 4000 Communication Security (COMSEC) Maintenance and Maintenance Training
63. DODI 8523.01 Communications Security
64. DODI 8570.01-M Information Assurance Workforce Improvement Program
65. CMS-5 Communication Security Material System (CMS) Cryptographic Equipment Information/Guidance manual
66. Electronic Key Management System (EKMS 1)

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: This task applies to when in command of an Electronics Maintenance Company (ELMACO), Reparables Management Company (RMC), or a Service Company.

2800 GROUND T&R MANUAL

CHAPTER 4

MOS 2805 INDIVIDUAL EVENTS

2800 GROUND T&R MANUAL

CHAPTER 4

MOS 2805 INDIVIDUAL EVENTS

4000. PURPOSE. This chapter contains individual training events for MOS 2805, Data/Communications Maintenance Officer.

4001. INDIVIDUAL SKILLS

1. Core skills are basic individual skills that make a Marine and qualify them for an MOS. They are the 1000 level skills introduced in the entry level training in the formal schools and refined in operational units.

2. Core Plus Skills are advanced individual skills that are environment, mission, rank or billet specific. They are the 2000 level skills introduced in the entry level managed on the job training in operational units and advanced formal schools training.

4002. EVENT CODING. Events in the T&R Manual are depicted with an 11 or 12 digit alphanumeric system, i.e. XXXX-XXXX-XXXX, utilizing the following methodology:

a. Field one - Each event starts with 28XX. 2800 indicates that the event is a core capability for all Marines within the occupational field. 2844 indicates the event is for 2844, Ground Communications Organizational Repairer, etc.

b. Field two - This field is alpha characters indicating a functional area. The functional areas for this chapter are listed below:

Functional Area	Field Name	Example
Maintenance Planning	PLAN	2844-PLAN-XXXX
Maintenance Administration	ADMN	2844-ADMN-XXXX
Maintenance Actions	ACT	2844-ACT-XXXX
Maintenance Operations	OPS	2844-OPS-XXXX
Maintenance Training	TRNG	2844-TRNG-XXXX

c. Field three - All individual events within T&R Manuals are either 1000-level events that are taught at MOS-producing formal schools or 2000-level events that are taught at advanced-level schools or are MOJT. The first digit indicates whether it is a core (1) or core plus (2) event.

The second digit indicates the associated field and the last two digits indicate the task number. 2303 indicates that it is a core plus task and it is the third task within the Maintenance Actions functional area for that MOS. This chapter contains both level events.

MOS	Field Name	Associated Field Number	Core/ Core Plus	Task	Example
2800	PLAN	101-199	2	1	2800-PLAN-2101
2871	ADMN	201-299	1	4	2871-ADMN-1201
2846	ACT	301-399	2	3	2846-ACT-2303
2821	OPS	401-499	1	2	2821-OPS-1401
2805	TRNG	501-599	2	1	2805-TRNG-2501

4003. INDEX OF 2000-LEVEL EVENTS

4004. 2000-LEVEL EVENTS

2805-PLAN-2101: Produce a maintenance SOP

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

MOS PERFORMING: 2805

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, Commander's guidance and a table of organization and equipment.

STANDARD: To outline the implementation of maintenance policy and procedures in accordance with MCO P4790.2_, Appendix A.

PERFORMANCE STEPS:
1. Analyze mission, directives, policy guidance and references.
2. Outline and record: Command and Control relationships, training requirements and procedures, security (cryptographic, emission, physical and transmission), embarkation procedures, administrative/operational reports, ECCM and continuing actions of Marines.
3. Address the following: Allocation of maintenance training/performance time, shop operations, equipment that exceeds maintenance capabilities, evacuation of equipment, maintenance phase procedures, quality control, record keeping, reports, modifications, support and test equipment, desktops and turnovers, safety, performance recognition.
4. Submit for inclusion in unit's SOP.

REFERENCES:
1. MCO 1200.17 Military Occupational Specialties Manual
2. 29 CFR 1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
3. Applicable technical manuals/publications
4. MCWP 3-40.3 Communications and Information Systems
5. MCWP 5-1 Marine Corps Planning Process
6. MPS Load Plan
7. Operational Order
8. UNIT SOP Unit's Standing Operating Procedures
9. Unit TO/E Table of Organization/Equipment
10. MCWP 4-24 Maintenance Operations
11. MCRP 4-11.3 Unit Embarkation Handbook
12. UM PLMS Publication Library Management System
13. MCO P5215.17 Marine Corps Technical Publications System
14. MCBul 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
15. MCO 3000.11 Marine Corps Automated Readiness Evaluation System
16. MCO 4400.16 Uniform Material Movement and Issue Priority System
17. MCO P4400.150 Consumer Level Supply Policy Manual
18. MCO P4400.151 Intermediate-Level Supply Management Policy Manual
19. MCO P4400.82F Regulated/Controlled Items Management Manual
20. MCO P4790.1 MIMMS Introduction Manual

21. MCO P4790.2 MIMMS Field Procedures Manual
22. TM 4700-15/1 Ground Equipment Record Procedures
23. DLA Customer Assistance Handbook
24. UM 4400-124 FMF SASSY Using Unit Procedures
25. UM 4400-60 Material Returns Program User's Manual
26. UM 4400-123 FMF SASSY Management Unit Procedures
27. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
28. MCO 4855.10 Product Quality Deficiency Reporting (PQDR)
29. MCO 4105.2 Marine Corps Warranty Program
30. ICE2 Statement of Requirements Document
31. Contracting Officer Representative (COR) ICE2 Handbook
32. DoDD 4151.18 Maintenance of Military Material
33. MCO 4733.1 Marine Corps Test, Measurement, Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
34. TM 10510-OD/1 General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Electronic Support Items and Tool Kits)
35. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
36. TI 4733-15/1 Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance
37. TI 4733-15/6 Test, Measurement and Diagnostic Equipment Calibration and Maintenance Support
38. TI 4733-15/7 Procedural Publication Index for Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
39. TI 4733-15/9 Radiac Instrument Calibration Requirements
40. TI 4733-15/10 Special Calibration of Torque Wrenches
41. TI 4733-15/11 Infantry Weapons Gauge Calibrations Program
42. 4733-15/12 Calibration Requirements for Thermistor Mounts/Power Sensors Marine Corps Calibration Program
43. TI 4733-15/21 Survey Instrument Calibration
44. TI 4733-35/5 Calibration Equipment Recommendations for the Marine Corps Calibration Program
45. TI 4733-35/8 Marine Corps Transfer Standards Program
46. TI 4733-35/23 Naval and Marine Corps Calibration Laboratory Audit/Certification Manual
47. TI 5820-25/22 Electromagnetic Environmental Effects Procedures for Installation of Communication Equipment on United States Marine Corps Platforms
48. MCO 2410.2 Electromagnetic Environmental Effects Control Program
49. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety
50. TM 9999-15/1 Electrostatic Discharge Awareness
51. TM 9999-15/2 Electrostatic Discharge Awareness
52. SI-4400-15/5 Packaging/Handling/Storage and Transportation of ESD Sensitive Items
53. TI-4400-15/1A Packaging, Handling, and Transportation of ESD Items
54. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair
55. TM 2000.15/1 Brief Description of US Marine Corps Communication-Electronic Equipment
56. TM 2000.OD/2 Principle Technical Characteristics of U.S. Marine Corps Communication-Electronics Equipment
57. TM 4795-12/1 Corrosion Prevention and Control
58. TM 4795-34/2 Corrosion Prevention and Control
59. TM-5410-14/1 Intermediate Maintenance Instructions Electronics

Maintenance Complex
60. TM 5411-14/1 Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) Operation and Maintenance Instructions
61. TM-5411-14/P&2 EMI Shelter (Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) 10-Foot Rigid General Purpose Shelter Operation and Maintenance (Instructions with Repair Parts List)
62. CNSS 4000 Communication Security (COMSEC) Maintenance and Maintenance Training
63. DODI 8523.01 Communications Security
64. DODI 8570.01-M Information Assurance Workforce Improvement Program
65. CMS-5 Communication Security Material System (CMS) Cryptographic Equipment Information/Guidance manual
66. Electronic Key Management System (EKMS 1)

2805-ADMN-2201: Direct internal ground electronics maintenance programs

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

MOS PERFORMING: 2805

GRADES: WO-1, CWO-2, CWO-3, CWO-4

INITIAL TRAINING SETTING: FORMAL

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

STANDARD: To ensure that maintenance programs are initiated and managed per MCO P4790.2_.

PERFORMANCE STEPS:
1. Supervise the following programs: calibration/TMDE, publications, quality control, modification control, tool and equipment control, pre-expend bin, MIMMS, supply and product quality deficiency reporting.
2. Institute procedures for the following: validation and reconciliation, field operations, equipment accountability and availability, LTI procedures, deployment/retrograde procedures, readiness reporting, COMSEC maintenance and COMSEC awareness training and documentation.

REFERENCES:
1. MCO 4733.1B Marine Corps Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP) (Jun 99)
2. MCO P4400.150E Consumer-Level Supply Policy Manual (Jun 99)
3. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
4. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
5. UNIT SOP Unit's Standing Operating Procedures
6. Unit TO/E Table of Organization/Equipment

2805-ADMN-2202: Oversee requirements for participation in external maintenance support programs

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

MOS PERFORMING: 2805

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

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

STANDARD: To ensure that maintenance programs are initiated and managed per MCO P4790.2_.

PERFORMANCE STEPS:

1. Validate the following external support programs: MPS/FIE, Mission Essential Equipment, IROAN/R&R/WIR, Class IX, CLS, warranty coordination, corrosion prevention and control (CPAC), administrative deadline and administrative storage, FSMAO, depot master work schedules, data assurance team inspections, ELMP and DLMP.

REFERENCES:

1. UNIT SOP Unit's Standing Operating Procedures
2. Unit TO/E Table of Organization/Equipment
3. MCWP 4-24 Maintenance Operations
4. MCBul 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
5. MCO 3000.11 Marine Corps Automated Readiness Evaluation System
6. MCO 4400.16 Uniform Material Movement and Issue Priority System
7. MCO P4400.150 Consumer Level Supply Policy Manual
8. MCO P4400.151 Intermediate-Level Supply Management Policy Manual
9. MCO 4400.192 Logistics Management Information System
10. MCO P4400.82F Regulated/Controlled Items Management Manual
11. MCO P4790.1 MIMMS Introduction Manual
12. MCO P4790.2 MIMMS Field Procedures Manual
13. TM 4700-15/1 Ground Equipment Record Procedures
14. DLA Customer Assistance Handbook
15. UM 4400-124 FMF SASSY Using Unit Procedures
16. UM 4400-60 Material Returns Program User's Manual
17. UM 4400-123 FMF SASSY Management Unit Procedures
18. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
19. MCO 4855.10 Product Quality Deficiency Reporting (PQDR)
20. MCO 4105.2 Marine Corps Warranty Program
21. ICE2 Statement of Requirements Document
22. Contracting Officer Representative (COR) ICE2 Handbook
23. MCO 4200.33 Contractor Logistics Support (CLS) for Ground Equipment, Ground Weapons Systems, Munitions, and Information Systems
24. MCO 4081.2 Performance Based Logistics (PBL)
25. TI 4733-35/23 Naval and Marine Corps Calibration Laboratory Audit/Certification Manual
26. TI 5820-25/22 Electromagnetic Environmental Effects Procedures for Installation of Communication Equipment on United States Marine Corps Platforms
27. MCO 2410.2 Electromagnetic Environmental Effects Control Program
28. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety
29. TM 9999-15/1 Electrostatic Discharge Awareness

30. TM 9999-15/2 Electrostatic Discharge Awareness
31. SI-4400-15/5 Packaging/Handling/Storage and Transportation of ESD Sensitive Items
32. TI-4400-15/1A Packaging, Handling, and Transportation of ESD Items
33. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair
34. TM 2000.15/1 Brief Description of US Marine Corps Communication-Electronic Equipment
35. TM 2000.OD/2 Principle Technical Characteristics of U.S. Marine Corps Communication-Electronics Equipment
36. TM 4795-12/1 Corrosion Prevention and Control
37. TM 4795-34/2 Corrosion Prevention and Control
38. TM 5410 14 1 EMI Shelter (Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) Operation and Maintenance Instructions
39. TM 5411 14 P &2 EMI Shelter (Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) 10-Foot Rigid General Purpose Shelter Operation and Maintenance (Instructions with Repair Parts List)
40. CNSS 4000 Communication Security (COMSEC) Maintenance and Maintenance Training
41. DODI 8523.01 Communications Security
42. DODI 8570.01-M Information Assurance Workforce

2805-ADMN-2203: Direct low density ground electronic maintenance shop procedures

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

MOS PERFORMING: 2805

GRADES: WO-1, CWO-2, CWO-3, CWO-4

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, Commander's guidance, a ground electronic maintenance platoon/section, a mission statement and program reports.

STANDARD: To ensure regulated/controlled items are properly managed in accordance with MCO P4400.150_; MCO P4400.82; and MCO P4400.151.

PERFORMANCE STEPS:
1. Manage secondary reparables.
2. Review/validate the low density (LD) secondary reparable (SECREP) float.
3. Supervise item review/stockage computation.
4. Monitor redistribution of reparable issue points (RIP) assets.
5. Manage the materials return program.

REFERENCES:
1. MCO 3000.11_ Marine Corps Ground Equipment Resources Reporting
2. MCO 4733.1B Marine Corps Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP) (Jun 99)
3. MCO P4400.150E Consumer-Level Supply Policy Manual (Jun 99)
4. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)

5. MCWP 4-24 Commander's Guide to Maintenance
6. UM 4400-124 Sassy Using Unit Procedures
7. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

2805-ADMN-2204: Prepare a budget

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

MOS PERFORMING: 2805

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

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

STANDARD: In accordance with MCO P7100.8_.

PERFORMANCE STEPS:
1. Review mission.
2. Determine operational and maintenance requirements.
3. Identify new project requirements.
4. Determine funding category (PMC or O&M).
5. Review maintenance contracts.
6. Determine costs for training personnel.
7. Review existing funds available.
8. Determine installation/construction dates for new projects.
9. Develop cost estimates for projects, maintenance, and training.
10. Develop/plan a budget based on preceding requirements.

2805-ACT-2301: Manage ground electronics maintenance

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

MOS PERFORMING: 2805

GRADES: WO-1, CWO-2, CWO-3, CWO-4

INITIAL TRAINING SETTING: FORMAL

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

STANDARD: In accordance with MCO P4790.2_, page 1-19 through 1-20 and the unit SOP.

PERFORMANCE STEPS:
1. Provide technical advice to the Commander on commodity maintenance functions
2. Supervise maintenance/commodity operations.

3. Plan maintenance workload.
4. Schedule, direct, and supervise the care, inspection, and maintenance of the unit's equipment.
5. Conduct periodic equipment inspections.
6. Maintain staff responsibility for the operation and functioning of maintenance information systems.
7. Plan, organize, and coordinate the use of maintenance resources.
8. Coordinate repair parts support.
9. Analyze maintenance information.
10. Coordinate maintenance related programs (training, tools and support equipment, technical info, facilities, maintenance funding and contract maintenance).
11. Establish maintenance production and quality control programs.
12. Maintain staff responsibility for operations and functioning of calibration control, PMCS, modification control, and technical publication control programs.

REFERENCES:

1. MCO 1200.17 Military Occupational Specialties Manual
2. 29 CFR 1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
3. Applicable technical manuals/publications
4. MCWP 3-40.3 Communications and Information Systems
5. MCWP 5-1 Marine Corps Planning Process
6. MPS Load Plan
7. Operational Order
8. UNIT SOP Unit's Standing Operating Procedures
9. Unit TO/E Table of Organization/Equipment
10. MCWP 4-24 Maintenance Operations
11. MCRP 4-11.3 Unit Embarkation Handbook
12. UM PLMS Publication Library Management System
13. MCO P5215.17 Marine Corps Technical Publications System
14. MCBul 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
15. MCO 3000.11 Marine Corps Automated Readiness Evaluation System
16. MCO 4400.16 Uniform Material Movement and Issue Priority System
17. MCO P4400.150 Consumer Level Supply Policy Manual
18. MCO P4400.151 Intermediate-Level Supply Management Policy Manual
19. MCO P4400.82F Regulated/Controlled Items Management Manual
20. MCO P4790.1 MIMMS Introduction Manual
21. MCO P4790.2 MIMMS Field Procedures Manual
22. TM 4700-15/1 Ground Equipment Record Procedures
23. DLA Customer Assistance Handbook
24. UM 4400-124 FMF SASSY Using Unit Procedures
25. UM 4400-60 Material Returns Program User's Manual
26. UM 4400-123 FMF SASSY Management Unit Procedures
27. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
28. MCO 4855.10 Product Quality Deficiency Reporting (PQDR)
29. MCO 4105.2 Marine Corps Warranty Program
30. ICE2 Statement of Requirements Document
31. Contracting Officer Representative (COR) ICE2 Handbook
32. DoDD 4151.18 Maintenance of Military Material
33. MCO 4733.1 Marine Corps Test, Measurement, Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
34. TM 10510-OD/1 General Purpose Test Measurement and Diagnostic Equipment

(TMDE) Listing (Including Ancillary Electronic Support Items and Tool Kits)
35. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
36. TI 4733-15/1 Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance
37. TI 4733-15/6 Test, Measurement and Diagnostic Equipment Calibration and Maintenance Support
38. TI 4733-15/7 Procedural Publication Index for Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
39. TI 4733-15/9 Radiac Instrument Calibration Requirements
40. TI 4733-15/10 Special Calibration of Torque Wrenches
41. TI 4733-15/11 Infantry Weapons Gauge Calibrations Program
42. 4733-15/12 Calibration Requirements for Thermistor Mounts/Power Sensors Marine Corps Calibration Program
43. TI 4733-15/21 Survey Instrument Calibration
44. TI 4733-35/5 Calibration Equipment Recommendations for the Marine Corps Calibration Program
45. TI 4733-35/8 Marine Corps Transfer Standards Program
46. TI 4733-35/23 Naval and Marine Corps Calibration Laboratory Audit/Certification Manual
47. TI 5820-25/22 Electromagnetic Environmental Effects Procedures for Installation of Communication Equipment on United States Marine Corps Platforms
48. MCO 2410.2 Electromagnetic Environmental Effects Control Program
49. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety
50. TM 9999-15/1 Electrostatic Discharge Awareness
51. TM 9999-15/2 Electrostatic Discharge Awareness
52. SI-4400-15/5 Packaging/Handling/Storage and Transportation of ESD Sensitive Items
53. TI-4400-15/1A Packaging, Handling, and Transportation of ESD Items
54. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair
55. TM 2000.15/1 Brief Description of US Marine Corps Communication-Electronic Equipment
56. TM 2000.OD/2 Principle Technical Characteristics of U.S. Marine Corps Communication-Electronics Equipment
57. TM 4795-12/1 Corrosion Prevention and Control
58. TM 4795-34/2 Corrosion Prevention and Control
59. TM-5410-14/1 Intermediate Maintenance Instructions Electronics Maintenance Complex
60. TM 5411-14/1 Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) Operation and Maintenance Instructions
61. TM-5411-14/P&2 EMI Shelter (Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) 10-Foot Rigid General Purpose Shelter Operation and Maintenance (Instructions with Repair Parts List)
62. CNSS 4000 Communication Security (COMSEC) Maintenance and Maintenance Training
63. DODI 8523.01 Communications Security
64. DODI 8570.01-M Information Assurance Workforce Improvement Program
65. CMS-5 Communication Security Material System (CMS) Cryptographic Equipment Information/Guidance manual
66. Electronic Key Management System (EKMS 1)

2805-ACT-2302: Brief the Commander on equipment readiness

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

MOS PERFORMING: 2805

GRADES: WO-1, CWO-2, CWO-3, CWO-4, CWO-5

INITIAL TRAINING SETTING: FORMAL

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

STANDARD: To provide a realistic portrayal of unit's ability to perform its assigned mission in accordance with MCBul 3000; MCO 3000.11_; and MCO 4400.16.

PERFORMANCE STEPS:
1. Review Commander's guidance.
2. Review MARES management reports
3. Identify MARES-tracked equipment excesses and deficiencies within the reporting unit.
4. Present an analysis of the effectiveness of the maintenance and supply systems.
5. Reflects information regarding the measure of the organization's equipment capability in terms of "S" and "R" ratings.
6. Provide an assessment of the unit's "MR" rating.
7. Evaluate overall equipment readiness posture.
8. Provide recommendations.

REFERENCES:

1. FMFM 3-1 Command and Staff Action
2. Maintenance Output reports
3. MCBul 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
4. MCO 3000.11 Marine Corps Automated Readiness Evaluation System
5. MCO 4400.16 Uniform Material Movement and Issue Priority System
6. MCO P4790.2C MIMMS Field Procedures Manual
7. MCWP 4-24 Commander's Guide to Maintenance
8. Unit TO/E Table of Organization/Equipment
9. Web based maintenance management tools

2805-OPS-2401: Direct the deployment of a field maintenance activity

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

MOS PERFORMING: 2805

GRADES: WO-1, CWO-2, CWO-3, CWO-4

INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided equipment, a mission, and personnel.

STANDARD: To implement task organized maintenance in support of MAGTF operations, in accordance with MCO P4790.2_, Appendix E.

PERFORMANCE STEPS:

1. Adhere to safety requirements.
2. Verify security.
3. Conduct pre-deployment inspection.
4. Verify load plans.
5. Verify special material handling and equipment transportation.
6. Validate support requirements.
7. Verify repair parts and equipment requirements.
8. Establish maintenance contact teams.
9. Conduct site selection.

REFERENCES:

1. MCO 1200.17 Military Occupational Specialties Manual
2. 29 CFR 1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
3. Applicable technical manuals/publications
4. MCWP 3-40.3 Communications and Information Systems
5. MCWP 5-1 Marine Corps Planning Process
6. MPS Load Plan
7. Operational Order
8. UNIT SOP Unit's Standing Operating Procedures
9. Unit TO/E Table of Organization/Equipment
10. MCWP 4-24 Maintenance Operations
11. MCRP 4-11.3 Unit Embarkation Handbook
12. UM PLMS Publication Library Management System
13. MCO P5215.17 Marine Corps Technical Publications System
14. MCBul 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
15. MCO 3000.11 Marine Corps Automated Readiness Evaluation System
16. MCO 4400.16 Uniform Material Movement and Issue Priority System
17. MCO P4400.150 Consumer Level Supply Policy Manual
18. MCO P4400.151 Intermediate-Level Supply Management Policy Manual
19. MCO P4400.82F Regulated/Controlled Items Management Manual
20. MCO P4790.1 MIMMS Introduction Manual
21. MCO P4790.2 MIMMS Field Procedures Manual
22. TM 4700-15/1 Ground Equipment Record Procedures
23. DLA Customer Assistance Handbook
24. UM 4400-124 FMF SASSY Using Unit Procedures
25. UM 4400-60 Material Returns Program User's Manual
26. UM 4400-123 FMF SASSY Management Unit Procedures
27. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
28. MCO 4855.10 Product Quality Deficiency Reporting (PQDR)
29. MCO 4105.2 Marine Corps Warranty Program
30. ICE2 Statement of Requirements Document
31. Contracting Officer Representative (COR) ICE2 Handbook
32. DoDD 4151.18 Maintenance of Military Material
33. MCO 4733.1 Marine Corps Test, Measurement, Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
34. TM 10510-OD/1 General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Electronic Support Items and Tool Kits)
35. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools

36. TI 4733-15/1 Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance
37. TI 4733-15/6 Test, Measurement and Diagnostic Equipment Calibration and Maintenance Support
38. TI 4733-15/7 Procedural Publication Index for Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
39. TI 4733-15/9 Radiac Instrument Calibration Requirements
40. TI 4733-15/10 Special Calibration of Torque Wrenches
41. TI 4733-15/11 Infantry Weapons Gauge Calibrations Program
42. 4733-15/12 Calibration Requirements for Thermistor Mounts/Power Sensors Marine Corps Calibration Program
43. TI 4733-15/21 Survey Instrument Calibration
44. TI 4733-35/5 Calibration Equipment Recommendations for the Marine Corps Calibration Program
45. TI 4733-35/8 Marine Corps Transfer Standards Program
46. TI 4733-35/23 Naval and Marine Corps Calibration Laboratory Audit/Certification Manual
47. TI 5820-25/22 Electromagnetic Environmental Effects Procedures for Installation of Communication Equipment on United States Marine Corps Platforms
48. MCO 2410.2 Electromagnetic Environmental Effects Control Program
49. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety
50. TM 9999-15/1 Electrostatic Discharge Awareness
51. TM 9999-15/2 Electrostatic Discharge Awareness
52. SI-4400-15/5 Packaging/Handling/Storage and Transportation of ESD Sensitive Items
53. TI-4400-15/1A Packaging, Handling, and Transportation of ESD Items
54. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair
55. TM 2000.15/1 Brief Description of US Marine Corps Communication-Electronic Equipment
56. TM 2000.OD/2 Principle Technical Characteristics of U.S. Marine Corps Communication-Electronics Equipment
57. TM 4795-12/1 Corrosion Prevention and Control
58. TM 4795-34/2 Corrosion Prevention and Control
59. TM-5410-14/1 Intermediate Maintenance Instructions Electronics Maintenance Complex
60. TM 5411-14/1 Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) Operation and Maintenance Instructions
61. TM-5411-14/P&2 EMI Shelter (Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) 10-Foot Rigid General Purpose Shelter Operation and Maintenance (Instructions with Repair Parts List)
62. CNSS 4000 Communication Security (COMSEC) Maintenance and Maintenance Training
63. DODI 8523.01 Communications Security
64. DODI 8570.01-M Information Assurance Workforce Improvement Program
65. CMS-5 Communication Security Material System (CMS) Cryptographic Equipment Information/Guidance manual
66. Electronic Key Management System (EKMS 1)

2800 GROUND T&R MANUAL

CHAPTER 5

MOS 2821 INDIVIDUAL EVENTS

2800 GROUND T&R MANUAL

CHAPTER 5

MOS 2821 INDIVIDUAL EVENTS

5000. PURPOSE. This chapter contains individual training events for MOS 2821, Technical Controller Marine.

5001. INDIVIDUAL SKILLS

1. Core skills are basic individual skills that make a Marine and qualify them for an MOS. They are the 1000 level skills introduced in the entry level training in the formal schools and refined in operational units.

2. Core Plus Skills are advanced individual skills that are environment, mission, rank or billet specific. They are the 2000 level skills introduced in the entry level managed on the job training in operational units and advanced formal schools training.

5002. EVENT CODING. Events in the T&R Manual are depicted with an 11 or 12 digit alphanumeric system, i.e. XXXX-XXXX-XXXX, utilizing the following methodology:

a. Field one - Each event starts with 28XX. 2800 indicates that the event is a core capability for all Marines within the occupational field. 2844 indicates the event is for 2844, Ground Communications Organizational Repairer, etc.

b. Field two - This field is alpha characters indicating a functional area. The functional areas for this chapter are listed below:

Functional Area	Field Name	Example
Maintenance Planning	PLAN	2844-PLAN-XXXX
Maintenance Administration	ADMN	2844-ADMN-XXXX
Maintenance Actions	ACT	2844-ACT-XXXX
Maintenance Operations	OPS	2844-OPS-XXXX
Maintenance Training	TRNG	2844-TRNG-XXXX

c. Field three - All individual events within T&R Manuals are either 1000-level events that are taught at MOS-producing formal schools or 2000-level events that are taught at advanced-level schools or are MOJT.

The first digit indicates whether it is a core (1) or core plus (2) event. The second digit indicates the associated field and the last two digits indicate the task number. 2303 indicates that it is a core plus task and it is the third task within the Maintenance Actions functional area for that MOS. This chapter contains both level events.

MOS	Field Name	Associated Field Number	Core/ Core Plus	Task	Example
2800	PLAN	101-199	2	1	2800-PLAN-2101
2871	ADMN	201-299	1	4	2871-ADMN-1201
2846	ACT	301-399	2	3	2846-ACT-2303
2821	OPS	401-499	1	2	2821-OPS-1401
2805	TRNG	501-599	2	1	2805-TRNG-2501

5003. INDEX OF 1000-LEVEL EVENTS

5004. 1000-LEVEL EVENTS

2821-ACT-1301: Perform corrective maintenance on technical control facilities to the line replaceable unit (LRU)

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

MOS PERFORMING: 2821

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, an assigned maintenance area, 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. Adhere to cryptographic security regulations.
3. Research applicable technical data pertaining to faulty equipment.
4. Read schematic diagrams.
5. Ensure proper handling of static sensitive devices.
6. Measure circuit performance.
7. Trace signal paths.
8. Trace voltage paths.
9. Isolate faulty line replaceable unit(s).
10. Requisition repair parts as required.
11. Replace faulty LRU(s).
12. Apply authorized modification and technical instructions.
13. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. Applicable technical manuals/publications
2. CMS-5 COMSEC Material System Policy & Procedures Manual
3. EKMS-1_ CMS Policy and Procedures for Navy EKMS Tiers 2 & 3
4. FEDLOG Federal Logistic Data on Compact Disk
5. MCO P4790.1 Marine Corps Integrated Maintenance Management System (MIMMS) Manual
6. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
7. Maintenance Float Catalog Maintenance Float Catalog
8. SECNAVINST 5510.30 Information and Personnel Security Program
9. SECNAVINST 5510.36_ Dept of the Navy Information and Personnel Security Program Regulations
10. SL 1-2/3 Index of Authorized Publications in Stock
11. SL-4 Repair, Maintenance, and Management Lists
12. TM 9999-15/1 ESD Awareness Electro-Static Discharge
13. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Technical Control Facility (DTC, JECCS, DITS)
2. CAT-5 Cable Tester
3. ISDN Test Set
4. Digital Multimeter
5. Data Communication Analyzer
6. Oscilloscope
7. Breakout Box

MATERIAL: Distance Learning Products Available:
1. MCI 2820, Electronics Mathematics for Marines
2. MCI 287A, Introduction to Test Measurement and Diagnostic Equipment
3. Applicable CBTs from TMDE Branch

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.

2821-ACT-1302: Perform limited corrective maintenance on communication security equipment associated with technical control equipment

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

MOS PERFORMING: 2821

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, 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. Adhere to cryptographic security regulations.
3. Ensure proper handling of static sensitive devices.
4. Trace block diagrams as required.
5. Isolate faulty line replaceable unit(s) (LRU)/components.
6. Requisition repair parts, as required.
7. Replace faulty components, as required.
8. Evacuate to depot maintenance activity, as required.
9. Apply authorized modification and technical instructions.
10. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. 29 CFR1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
2. Applicable technical manuals/publications
3. CMS-5 COMSEC Material System Policy & Procedures Manual
4. DISA Circulars/Publications DISA Circulars/Publications
5. EKMS-1_ CMS Policy and Procedures for Navy EKMS Tiers 2 & 3
6. FEDLOG Federal Logistic Data on Compact Disk
7. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
8. SL 1-2/3 Index of Authorized Publications in Stock
9. TM 9999-15/1 ESD Awareness Electro-Static Discharge
10. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. KIV-19/19A Trunk Encryption Device
2. TSEC/KGX-93 AKDC
3. KIV-7HS/HSB Data Encryption Device
4. ST-58 Fill/Vinson/KG-84
5. TSEC/KG-82
6. Simple Key Loader (SKL)
7. TSEC/KG-194/194A Trunk Encryption Device
8. TSEC/KY-57 Speech Security Equipment (Vinson)
9. KY-68 Digital Secure Voice Terminal
10. TSEC/KYX-15A
11. AN/CYZ-10 V3 Data Transfer Device
12. TSEC/STX-34 Test Set
13. KIV-7M Line Encryption Device
14. KG-175/250 TACLANE Family

2821-OPS-1401: Install a technical control facility

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

MOS PERFORMING: 2821

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, equipment and an operations plan.

STANDARD: To establish a communications capability as outlined in Annex K of the Operations Order.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Verify power source.
3. Perform systems configuration to include cable/power connections.
4. Perform electromagnetic interference checks to include proper grounding, cable connections and power connections.
5. Perform power-up procedures as described in applicable technical manual.
6. Verify equipment operation.

REFERENCES:
1. Applicable technical manuals/publications
2. CMS-5 COMSEC Material System Policy & Procedures Manual
3. EKMS-1_ CMS Policy and Procedures for Navy EKMS Tiers 2 & 3
4. MCWP 3-40.3 Communications and Information Systems
5. Operational Order Operational Order
6. Programming Cut Sheets Programming Cut Sheets
7. SECNAVINST 5510.30 Information and Personnel Security Program
8. SECNAVINST 5510.36_ Dept of the Navy Information and Personnel Security Program Regulations
9. SL 1-2/3 Index of Authorized Publications in Stock
10. TM 09999-15/1 ESD Awareness
11. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety (Aug 91)

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Technical Control Facility (DTC, JECCS, DITS)
2. Power Source
3. Ground Tester

2821-OPS-1402: Conduct circuit/link restoration

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

MOS PERFORMING: 2821

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, a circuit/link outage, a communications network, TMDE and tools.

STANDARD: To re-establish a communications capability as outlined in Annex K of the Operations Order.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Coordinate with circuit users to determine status of terminal devices.
3. Ensure SYSCON/TECHCON is aware of circuit/link outage.
4. If there are multiple circuit/link outages, check with SYSCON/TECHCON for priority of restoration.
5. Conduct fault isolation procedures.
6. Coordinate restoration efforts with transmission system operators.
7. Condition circuits, as required.
8. Maintain log entries for all circuit/link actions.
9. Notify SYSCON/TECHCON with reason for outage and corrective actions taken.

REFERENCES:
1. Applicable technical manuals/publications
2. CJCSM 6231_ Manual for Employed Joint Communications

3. FM 24-16 Communication-Electronic Operations Orders, Records and Reports
4. MCWP 3-40.3 Communications and Information Systems
5. Operational Order
6. Programming Cut Sheets

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Oscilloscope
2. Analog Test Set
3. Cable Tester
4. Data Communication Analyzer
5. Digital Multimeter
6. Break-out Box
7. Associated Tools
8. Associated Communications Equipment
9. Loop back plugs

2821-OPS-1403: Coordinate activation/deactivation of communication circuits/links

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

MOS PERFORMING: 2821

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, equipment and an operations plan.

STANDARD: To establish a communications capability as outlined in Annex K of the Operations Order.

PERFORMANCE STEPS:
1. Verify circuit requirements with SYSCON/TECHCON.
2. Notify SYSCON/TECHCON on circuit/link status.
3. Verify incoming and outgoing signals for each circuit/link.
4. Coordinate and activate/deactivate circuits/links in prioritized fashion as dictated by SYSCON/TECHCON.
5. Validate circuit connectivity.
6. Maintain log entries on the activation/deactivation for all circuits and links.
7. Read/interpret COMSEC callout.

REFERENCES:
1. Applicable technical manuals/publications
2. CJCSM 6231_ Manual for Employed Joint Communications
3. FM 24-16 Communication-Electronic Operations Orders, Records and Reports
4. MCWP 3-40.3 Communications and Information Systems
5. Operational Order Operational Order
6. Programming Cut Sheets Programming Cut Sheets

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment: Associated Communication Systems

5005. INDEX OF 2000-LEVEL EVENTS

5006. 2000-LEVEL EVENTS

2821-PLAN-2101: Provide technical data for a regimental level communications plan

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

MOS PERFORMING: 2821

GRADES: CPL, SGT

INITIAL TRAINING SETTING: MOJT

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

STANDARD: To establish a communications capability as outlined in Annex K of the Operations Order.

PERFORMANCE STEPS:
1. Assess communications systems capability.
2. Coordinate with elements associated with communications control.
3. Verify circuit and link priority with SYSCON.
4. Prepare associated technical control documents.

REFERENCES:
1. Applicable technical manuals/publications
2. CJCSM 6231_ Manual for Employed Joint Communications
3. FM 11-55 FM 11-55
4. MCWP 3-40.3 Communications and Information Systems
5. Operational Order

2821-ACT-2301: Perform certification procedures on cryptographic equipment associated with technical control facilities

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

MOS PERFORMING: 2821

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, an assigned maintenance area, a certified KT-83, a KGX-93 and tools.

STANDARD: In accordance with KAM-407 and TM-11-5810-332-13, Appendix G.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Ensure proper handling of static sensitive components/printed circuit cards.
3. Connect equipment to be certified to special test equipment.

4. Perform certification procedures.
5. Ensure certification labels and stickers are placed on equipment, as required.
6. Evacuate to higher echelon, as required.
7. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:

1. Applicable Technical Publications
2. CMS-21 COMSEC Material System Policy & Procedures
3. CMS-5 COMSEC Material System Policy & Procedures Manual
4. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
5. SECNAVINST 5510.30 Information and Personnel Security Program
6. SECNAVINST 5510.36_ Dept of the Navy Information and Personnel Security Program Regulations
7. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:

1. TSEC/KGX-93 Automatic Key Distribution Center
2. KT-83

2800 GROUND T&R MANUAL

CHAPTER 6

MOS 2823 INDIVIDUAL EVENTS

2800 GROUND T&R MANUAL

CHAPTER 6

MOS 2823 INDIVIDUAL EVENTS

6000. PURPOSE. This chapter contains individual training events for MOS 2823, Technical Controller Chief.

6001. INDIVIDUAL SKILLS

1. Core skills are basic individual skills that make a Marine and qualify them for an MOS. They are the 1000 level skills introduced in the entry level training in the formal schools and refined in operational units.

2. Core Plus Skills are advanced individual skills that are environment, mission, rank or billet specific. They are the 2000 level skills introduced in the entry level managed on the job training in operational units and advanced formal schools training.

6002. EVENT CODING. Events in the T&R Manual are depicted with an 11 or 12 digit alphanumeric system, i.e. XXXX-XXXX-XXXX, utilizing the following methodology:

a. Field one - Each event starts with 28XX. 2800 indicates that the event is a core capability for all Marines within the occupational field. 2844 indicates the event is for 2844, Ground Communications Organizational Repairer, etc.

b. Field two - This field is alpha characters indicating a functional area. The functional areas for this chapter are listed below:

Functional Area	Field Name	Example
Maintenance Planning	PLAN	2844-PLAN-XXXX
Maintenance Administration	ADMN	2844-ADMN-XXXX
Maintenance Actions	ACT	2844-ACT-XXXX
Maintenance Operations	OPS	2844-OPS-XXXX
Maintenance Training	TRNG	2844-TRNG-XXXX

c. Field three - All individual events within T&R Manuals are either 1000-level events that are taught at MOS-producing formal schools or 2000-level events that are taught at advanced-level schools or are MOJT. The first digit indicates whether it is a core (1) or core plus (2) event.

The second digit indicates the associated field and the last two digits indicate the task number. 2303 indicates that it is a core plus task and it is the third task within the Maintenance Actions functional area for that MOS. This chapter contains both level events.

MOS	Field Name	Associated Field Number	Core/ Core Plus	Task	Example
2800	PLAN	101-199	2	1	2800-PLAN-2101
2871	ADMN	201-299	1	4	2871-ADMN-1201
2846	ACT	301-399	2	3	2846-ACT-2303
2821	OPS	401-499	1	2	2821-OPS-1401
2805	TRNG	501-599	2	1	2805-TRNG-2501

6003. INDEX OF 2000-LEVEL EVENTS

6004. 2000-LEVEL EVENTS

2823-PLAN-2101: Develop detailed system level data for a MAGTF or Joint level communications plan

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

MOS PERFORMING: 2823

GRADES: SSGT, GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, Commander's guidance, equipment, a mission and personnel.

STANDARD: In accordance with MCRP 3-11 and CJCSM 6231 series.

PERFORMANCE STEPS:
1. Assess adjacent unit's communication capabilities and requirements for integration and implementation.
2. Assess higher unit's communication capabilities and requirements for integration and implementation.
3. Assess supported unit's communication capabilities and requirements for integration and implementation.
4. Draft required technical data for the communication plan.
5. Coordinate with external agencies and elements associated with Communications Control.
6. Coordinate the assignment of designations for transmission links and circuits.
7. Identify technical deficiencies in the communications plan, as required.
8. Review required messages or requests prior to submission.
9. Verify circuit and link priority with external agencies.
10. Verify circuit requirements with subscribers.

REFERENCES:
1. Applicable technical manuals/publications
2. CJCSM 6231_ Manual for Employed Joint Communications
3. DoD 8570.01-M Information Assurance Workforce Improvement Program
4. MCWP 3-40.3 Communications and Information Systems
5. Operational Order

2823-ACT-2301: Restore complex circuits/links

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

MOS PERFORMING: 2823

GRADES: SSGT, GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, a communication network, designated circuit outage, TMDE and tools.

STANDARD: To re-establish a communications capability as outlined in Annex K of the Operations Order.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Analyze network status.
3. Assess critical communication architectural requirements.
4. Utilize network management tools to ensure quality of service and efficiency of the network.
5. Re-route or activate backup circuit/links according to the priority dictated by SYSCON/TECHCON.
6. Re-engineer complex circuit/links accommodating changes in the communication architectural requirements.

REFERENCES:
1. Applicable technical manuals/publications
2. DoD 8570.01-M Information Assurance Workforce Improvement Program
3. Operational Order
4. Programming Cut Sheets

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Technical Control Facility (DTC, JECCS, DITS)
2. Analog Test Set
3. Data Communication Analyzer
4. Digital Multimeter
5. Break-out Box
6. Associated Tools
7. Associated Communications Equipment
8. Loop back plugs
9. Oscilloscope

MATERIAL: Distance Learning Products Available:
1. MCI 286G, Fundamentals of Digital Logic
2. MCI 287A, Introduction to Test Measurement and Diagnostic Equipment

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2823-ACT-2302: Perform advanced corrective maintenance on technical control facilities to the piece-part component level

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

MOS PERFORMING: 2823

GRADES: SSGT, GYSGT, MSGT, MGYSGT

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. Adhere to cryptographic security regulations.
3. Research applicable technical data pertaining to faulty equipment.
4. Identify corrupted or incompatible software versions.
5. Reload/restore appropriate version of software.
6. Read schematic diagrams.
7. Ensure proper handling of static sensitive components/printed circuit cards.
8. Measure circuit performance.
9. Trace signal paths.
10. Trace current/voltage paths.
11. Isolate faulty chassis mounted components.
12. Replace faulty chassis mounted components.
13. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:

1. Applicable technical manuals/publications
2. CMS-5 COMSEC Material System Policy & Procedures Manual
3. DoD 8570.01-M Information Assurance Workforce Improvement Program
4. EKMS-1_ CMS Policy and Procedures for Navy EKMS Tiers 2 & 3
5. FEDLOG Federal Logistic Data
6. MCO P4790.1 Marine Corps Integrated Maintenance Management System (MIMMS) Manual
7. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
8. Maintenance Float Catalog Maintenance Float Catalog
9. SECNAVINST 5510.30 Information and Personnel Security Program
10. SECNAVINST 5510.36_ Dept of the Navy Information and Personnel Security Program Regulations
11. SL 1-2/3 Index of Authorized Publications in Stock
12. SL-4 Repair, Maintenance, and Management Lists
13. TM 9999-15/1 ESD Awareness Electro-Static Discharge
14. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:

1. Technical Control Facility (DTC, JECCS, DITS)
2. Oscilloscope
3. Analog Test Set
4. Data Communication Analyzer
5. Digital Multimeter
6. Break-out Box
7. Associated Tools
8. Associated Communications Equipment
9. Loop back plugs

MATERIAL: Distance Learning Products Available:

1. MCI 2820, Electronics Mathematics for Marines
2. MCI 286G, Fundamentals of Digital Logic
3. MCI 287A, Introduction to Test Measurement and Diagnostic Equipment

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.

2823-ACT-2303: Maintain the quality of service of a network

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

MOS PERFORMING: 2823

GRADES: SSGT, GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, an assigned maintenance area, designated circuit requirements and network management tools.

STANDARD: To maintain network operations as outlined in Annex K of the Operations Order.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Adhere to cryptographic security regulations.
3. Research applicable technical data pertaining to faulty equipment.
4. Read architectural diagrams.
5. Measure circuit performance.
6. Trace signal paths.
7. Assess and evaluate the efficiency of the configured network.
8. Utilize network management tools to improve quality of service.

REFERENCES:
1. Applicable technical manuals/publications
2. CMS-5 COMSEC Material System Policy & Procedures Manual
3. DoD 8570.01-M Information Assurance Workforce Improvement Program
4. EKMS-1_ CMS Policy and Procedures for Navy EKMS Tiers 2 & 3
5. FEDLOG Federal Logistic Data
6. MCO P4790.1 Marine Corps Integrated Maintenance Management System (MIMMS) Manual
7. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
8. Maintenance Float Catalog Maintenance Float Catalog
9. SECNAVINST 5510.30 Information and Personnel Security Program
10. SECNAVINST 5510.36_ Dept of the Navy Information and Personnel Security Program Regulations
11. SL 1-2/3 Index of Authorized Publications in Stock
12. SL-4 Repair, Maintenance, and Management Lists
13. TM 9999-15/1 ESD Awareness Electro-Static Discharge
14. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Technical Control Facility (DTC, JECCS, DITS)
2. Oscilloscope
3. Analog Test Set
4. Data Communication Analyzer
5. Digital Multimeter
6. Break-out Box
7. Associated Tools
8. Associated Communications Equipment
9. Loop back plugs
10. Network Monitoring Tools

MATERIAL: Distance Learning Products Available:
1. MCI 2820, Electronics Mathematics for Marines
2. MCI 286G, Fundamentals of Digital Logic
3. MCI 287A, Introduction to Test Measurement and Diagnostic Equipment

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2823-OPS-2401: Coordinate activation/deactivation of communications circuits/links connecting to the Defense Information Services Agency

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

MOS PERFORMING: 2823

GRADES: SSGT, GYSGT, MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, equipment and an operational plan.

STANDARD: To maintain system operations in accordance with Annex K of the Operations Order.

PERFORMANCE STEPS:
1. Verify circuit parameters with DISA.
2. Update SYSCON/TECHCON continually throughout installation of communications system.
3. Verify correct incoming and outgoing signaling for each circuit.
4. Coordinate activation of circuits once communications links test reliable as prioritized by SYSCON/TECHCON.
5. Coordinate deactivation of circuits upon completion of communications requirements as prioritized by SYSCON/TECHCON.
6. Maintain records on activation/deactivation of links and circuits.

REFERENCES:
1. Applicable technical manuals/publications
2. CJCSM 6231_ Manual for Employed Joint Communications
3. DISA Circulars/Publications DISA Circulars/Publications
4. DoD 8570.01-M Information Assurance Workforce Improvement Program
5. FM 24-16 Communication-Electronic Operations Orders, Records and Reports
6. MCWP 3-40.3 Communications and Information Systems

7. Operational Order
8. Programming Cut Sheets

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment: Associated Communication Systems

2800 GROUND T&R MANUAL

CHAPTER 7

MOS 2831 INDIVIDUAL EVENTS

2800 GROUND T&R MANUAL

CHAPTER 7

MOS 2831 INDIVIDUAL EVENTS

7000. PURPOSE. This chapter contains individual training events for MOS 2831, AN/TRC-170 Technician.

7001. INDIVIDUAL SKILLS

1. Core skills are basic individual skills that make a Marine and qualify them for an MOS. They are the 1000 level skills introduced in the entry level training in the formal schools and refined in operational units.

2. Core Plus Skills are advanced individual skills that are environment, mission, rank or billet specific. They are the 2000 level skills introduced in the entry level managed on the job training in operational units and advanced formal schools training.

7002. EVENT CODING. Events in the T&R Manual are depicted with an 11 or 12 digit alphanumeric system, i.e. XXXX-XXXX-XXXX, utilizing the following methodology:

a. Field one - Each event starts with 28XX. 2800 indicates that the event is a core capability for all Marines within the occupational field. 2844 indicates the event is for 2844, Ground Communications Organizational Repairer, etc.

b. Field two - This field is alpha characters indicating a functional area. The functional areas for this chapter are listed below:

Functional Area	Field Name	Example
Maintenance Planning	PLAN	2844-PLAN-XXXX
Maintenance Administration	ADMN	2844-ADMN-XXXX
Maintenance Actions	ACT	2844-ACT-XXXX
Maintenance Operations	OPS	2844-OPS-XXXX
Maintenance Training	TRNG	2844-TRNG-XXXX

c. Field three - All individual events within T&R Manuals are either 1000-level events that are taught at MOS-producing formal schools or 2000-level events that are taught at advanced-level schools or are MOJT. The first digit indicates whether it is a core (1) or core plus (2) event.

The second digit indicates the associated field and the last two digits indicate the task number. 2303 indicates that it is a core plus task and it is the third task within the Maintenance Actions functional area for that MOS. This chapter contains both level events.

MOS	Field Name	Associated Field Number	Core/ Core Plus	Task	Example
2800	PLAN	101-199	2	1	2800-PLAN-2101
2871	ADMN	201-299	1	4	2871-ADMN-1201
2846	ACT	301-399	2	3	2846-ACT-2303
2821	OPS	401-499	1	2	2821-OPS-1401
2805	TRNG	501-599	2	1	2805-TRNG-2501

7003. INDEX OF 1000-LEVEL EVENTS

7004. 1000-LEVEL EVENTS

2831-ACT-1301: Perform corrective maintenance on digital wideband transmission systems to the line replaceable unit (LRU) 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. Calculate basic circuit parameters.
5. Ensure proper handling of static sensitive components/printed circuit cards.
6. Measure circuit performance.
7. Perform alignments, as required.
8. Trace signal paths.
9. Trace current/voltage paths.
10. Isolate faulty line replaceable unit (LRU), as required.
11. Requisition repair parts, as required.
12. Remove/replace faulty LRU/SRU.
13. Apply authorized modifications and technical instructions.
14. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. Applicable technical manuals/publications
2. FEDLOG Federal Logistic Data
3. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
4. SL 1-2/3 Index of Authorized Publications in Stock
5. SL-4 Repair, Maintenance, and Management Lists
6. TM 9999-15/1 ESD Awareness Electro-Static Discharge
7. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Oscilloscope
2. Multimeter
3. Signal generator
4. Power supply
5. Digital wideband transmission system

6. Data analyzer
7. Spectrum analyzer
8. Frequency counter
9. Direction coupler

2831-ACT-1302: Perform limited corrective maintenance on communication security equipment used in digital wideband transmission 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, an assigned maintenance area, faulty COMSEC equipment, spare kits, 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. Adhere to cryptographic security regulations.
3. Connect faulty equipment to special test equipment.
4. Ensure proper handling of static sensitive components/printed circuit cards.
5. Trace functional block diagrams.
6. Isolate fault to the LRU/chassis mounted components.
7. Requisition repair parts, as required.
8. Remove/replace faulty components.
9. Evacuate to higher echelon, as required.
10. Research modifications both mandatory and optional.
11. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. Applicable technical manuals/publications
2. CMS-5 COMSEC Material System Policy & Procedures Manual
3. EKMS-1_ CMS Policy and Procedures for Navy EKMS Tiers 2 & 3
4. FEDLOG Federal Logistic Data
5. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
6. SECNAVINST 5510.30 Information and Personnel Security Program
7. SECNAVINST 5510.36_ Dept of the Navy Information and Personnel Security Program Regulations
8. TM 9999-15/1 ESD Awareness Electro-Static Discharge
9. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. TSEC/194/194A trunk encryption device
2. TSEC/KY-58 speech security equipment (VINSON)

2831-ACT-1303: Perform corrective maintenance on the AN/TRC-170 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. Calculate complex circuit parameters.
5. Ensure proper handling of static sensitive components/printed circuit cards.
6. Measure complex circuit performance.
7. Perform alignments.
8. Trace signal paths.
9. Trace current/voltage paths.
10. Identify faulty component(s).
11. Requisition parts, as required.
12. Remove/replace faulty component(s).
13. Apply authorized modifications and technical instructions.
14. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. Applicable technical manuals/publications
2. FEDLOG Federal Logistic Data
3. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
4. SL 1-2/3 Index of Authorized Publications in Stock
5. SL-4 Repair, Maintenance, and Management Lists
6. TM 9999-15/1 ESD Awareness Electro-Static Discharge
7. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Semiconductor device test set

2. Oscilloscope
3. Multimeter
4. Signal generator
5. Power supply
6. AN/USM-657 (V2) Third Echelon Test Set
7. Automated test equipment
8. AN/TRC-170 radio terminal set
9. Data analyzer
10. Spectrum analyzer
11. Frequency counter
12. AN/USM-674
13. AN/PSM-105
14. Directional coupler

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-1401: Provide technical assistance during the installation of digital wideband transmission 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, equipment, a mission and TMDE.

STANDARD: To ensure the AN/TRC-170 is installed and operates in accordance with TM -08658A-14/1 volumes 1, 2 and 3.

PERFORMANCE STEPS:
1. Verify equipment is properly grounded.
2. Verify power source.
3. Verify antenna installation.
4. Verify remote capabilities, as required.
5. Verify COMSEC connection, as required.
6. Verify equipment operation (configuration and programming).
7. Verify equipment operating procedures to include COMSEC.
8. Perform electromagnetic interference troubleshooting.
9. Provide technical assistance to correct discrepancies, as required.

REFERENCES:
1. Applicable technical manuals/publications
2. CMS-5 COMSEC Material System Policy & Procedures Manual
3. EKMS-1_ CMS Policy and Procedures for Navy EKMS Tiers 2 & 3
4. Operational Order

5. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety (Aug 91)
6. TM 9999-15/1 ESD Awareness Electro-Static Discharge

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Oscilloscope
2. Multimeter
3. Signal generator
4. Power supply
5. Digital wideband transmission systems
6. Data analyzer
7. Spectrum analyzer
8. Frequency counter

2800 GROUND T&R MANUAL

CHAPTER 8

MOS 2834 INDIVIDUAL EVENTS

2800 GROUND T&R MANUAL

CHAPTER 8

MOS 2834 INDIVIDUAL EVENTS

8000. PURPOSE. This chapter contains individual training events for MOS 2834, Satellite Communications (SATCOM) Technician.

8001. INDIVIDUAL SKILLS

1. Core skills are basic individual skills that make a Marine and qualify them for an MOS. They are the 1000 level skills introduced in the entry level training in the formal schools and refined in operational units.

2. Core Plus Skills are advanced individual skills that are environment, mission, rank or billet specific. They are the 2000 level skills introduced in the entry level managed on the job training in operational units and advanced formal schools training.

8002. EVENT CODING. Events in the T&R Manual are depicted with an 11 or 12 digit alphanumeric system, i.e. XXXX-XXXX-XXXX, utilizing the following methodology:

a. Field one - Each event starts with 28XX. 2800 indicates that the event is a core capability for all Marines within the occupational field. 2844 indicates the event is for 2844, Ground Communications Organizational Repairer, etc.

b. Field two - This field is alpha characters indicating a functional area. The functional areas for this chapter are listed below:

Functional Area	Field Name	Example
Maintenance Planning	PLAN	2844-PLAN-XXXX
Maintenance Administration	ADMN	2844-ADMN-XXXX
Maintenance Actions	ACT	2844-ACT-XXXX
Maintenance Operations	OPS	2844-OPS-XXXX
Maintenance Training	TRNG	2844-TRNG-XXXX

c. Field three - All individual events within T&R Manuals are either 1000-level events that are taught at MOS-producing formal schools or 2000-level events that are taught at advanced-level schools or are MOJT. The first digit indicates whether it is a core (1) or core plus (2) event.

The second digit indicates the associated field and the last two digits indicate the task number. 2303 indicates that it is a core plus task and it is the third task within the Maintenance Actions functional area for that MOS. This chapter contains both level events.

MOS	Field Name	Associated Field Number	Core/ Core Plus	Task	Example
2800	PLAN	101-199	2	1	2800-PLAN-2101
2871	ADMN	201-299	1	4	2871-ADMN-1201
2846	ACT	301-399	2	3	2846-ACT-2303
2821	OPS	401-499	1	2	2821-OPS-1401
2805	TRNG	501-599	2	1	2805-TRNG-2501

8003. INDEX OF 2000-LEVEL EVENTS

8004. 2000-LEVEL EVENTS

2834-ACT-2301: Perform advanced corrective maintenance on digital wideband transmission systems to the piece-part component level

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

MOS PERFORMING: 2834

GRADES: SGT, SSGT, GYSGT

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. 60-12120-01 Fireberd 6000 Reference Manual
2. Applicable technical manuals/publications
3. FEDLOG Federal Logistic Data
4. MCO 3500.27B Operational Risk Management (ORM) (MAY 2004)
5. MCO P4790.1 Marine Corps Integrated Maintenance Management System (MIMMS) Manual
6. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
7. PX 20055 Ground Mobile Forces AS-3036 Antenna Upgrade Kit
8. PX19671, REV. A (L3) X-Band Upconverter Model 6166-03 (CV-4352): Operations Manual
9. PX19672, REV. A (L3) X-Band Downconverter Model 6167-03 (CV-4353): Operations Manual
10. PX19674 - REV. B (L3) Model 3501-01 IBS/IDR Universal Satellite Modem (MD-1340): Installation & Operation Manual
11. SL 1-2/3 Index of Authorized Publications in Stock
12. SL-4 Repair, Maintenance, and Management Lists

13. TM 08347B-12/1 Satellite Communications Terminals AN/TSC-85B (V)1 w/ch 1&2: Operator & Organizational Maintenance Manual
14. M 08347B-34/3 Satellite Communications Terminals AN/TSC-85B (V)1 w/ch 1&2: Direct & General Support Maintenance Manual
15. TM 08348B-12/1 Satellite Communications Terminals AN/TSC-93D (V)1 w/ch 1&2: Operator & Organizational Maintenance Manual
16. TM 08348B-34/3 Satellite Communications Terminals AN/TSC-93B (V)1 w/ch 1&2: Direct & General Support Maintenance Manual
17. TM 10510-OD/IF General Purpose Test Measurement Diagnostic Equipment Listing
18. TM 10877A/10878A-10/2 Operation and Maintenance Quick Reference Guide for AN/USC-65 (V)1 and AN/USC-65 (V)2
19. TM 10877A/10878A-12/1 Operation and Maintenance Instructions for AN/USC-65 (V)1 and AN/USC-65 (V)2
20. TM 11-5895-1041-34 LNA Control/Translator (Single and Dual Control): Direct and General Support Maintenance Manual
21. TM 11-5895-1093-34 Control, Antenna C-10273/TSC: Direct & General Support Maintenance Manual
22. TM 11-5895-1612-12 Secure Mobile Anti-Jam Reliable Tactical Terminal
23. TM 11-5895-1612-30 Secure Mobile Anti-Jam Reliable Tactical Terminal
24. TM 11-5895-1780-13&P Replacement Frequency Modulation Orderwire Technical Manual
25. TM 11-6130-492-13&P Replacement High Voltage Power Supply Technical Manual
26. TM 11-7025-356-12&P Enhanced Tactical Satellite Signal Processor Technical Manual
27. TM 5895-1038-30 Antenna, AS-3036/TSC and Antenna Mounted Electronics: Direct Support Maintenance Manual
28. TM 9999-15/1 ESD Awareness Electro-Static Discharge
29. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
30. User's Guide Spectrum Analyzer

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.

2834-ACT-2302: Perform corrective maintenance on satellite communication antennas

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

MOS PERFORMING: 2834

GRADES: SGT, SSGT, GYSGT

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. FEDLOG Federal Logistic Data
3. MCO P4790.1 Marine Corps Integrated Maintenance Management System (MIMMS) Manual
4. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
5. SL 1-2/3 Index of Authorized Publications in Stock
6. SL-4 Repair, Maintenance, and Management Lists
7. TM 9999-15/1 ESD Awareness Electro-Static Discharge
8. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Digital multimeter
2. Wattmeter
3. Dummy Load
4. AN/TSC-85D GMF satellite terminal
5. AN/TSC-93D GMF satellite 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.

2834-OPS-2401: Provide technical assistance during the installation of satellite communication systems

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

MOS PERFORMING: 2834

GRADES: SGT, SSGT, GYSGT

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

REFERENCES:
1. Applicable technical manuals/publications
2. CMS-5 COMSEC Material System Policy & Procedures Manual
3. EKMS-1_ CMS Policy and Procedures for Navy EKMS Tiers 2 & 3
4. MCO 3500.27B Operational Risk Management (ORM) (MAY 2004)
5. Operational Order
6. PX 20055 Ground Mobile Forces AS-3036 Antenna Upgrade Kit

7. PX19671, REV. A (L3) X-Band Upconverter Model 6166-03 (CV-4352): Operations Manual
8. PX19672, REV. A (L3) X-Band Downconverter Model 6167-03 (CV-4353): Operations Manual
9. PX19674 - REV. B (L3) Model 3501-01 IBS/IDR Universal Satellite Modem (MD-1340): Installation & Operation Manual
10. TM 08347B-12/1 Satellite Communications Terminals AN/TSC-85B (V)1 w/ch 1&2: Operator & Organizational Maintenance Manual
11. TM 08347B-34/3 Satellite Communications Terminals AN/TSC-85B (V)1 w/ch 1&2: Direct & General Support Maintenance Manual
12. TM 08348B-12/1 Satellite Communications Terminals AN/TSC-93D (V)1 w/ch 1&2: Operator & Organizational Maintenance Manual
13. TM 08348B-34/3 Satellite Communications Terminals AN/TSC-93B (V)1 w/ch 1&2: Direct & General Support Maintenance Manual
14. TM 10877A/10878A-10/2 Operation and Maintenance Quick Reference Guide for AN/USC-65 (V)1 and AN/USC-65 (V)2
15. TM 10877A/10878A-12/1 Operation and Maintenance Instructions for AN/USC-65 (V)1 and AN/USC-65 (V)2
16. TM 11-5895-1041-34 LNA Control/Translator (Single and Dual Control): Direct and General Support Maintenance Manual
17. TM 11-5895-1093-34 Control, Antenna C-10273/TSC: Direct & General Support Maintenance Manual
18. TM 11-5895-1780-13&P Replacement Frequency Modulation Orderwire Technical Manual
19. TM 11-6130-492-13&P Replacement High Voltage Power Supply Technical Manual
20. TM 11-7025-356-12&P Enhanced Tactical Satellite Signal Processor Technical Manual
21. TM 5895-1038-30 Antenna, AS-3036/TSC and Antenna Mounted Electronics: Direct Support Maintenance Manual
22. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety (Aug 91)
23. TM 9999-15/1 ESD Awareness Electro-Static Discharge

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:

1. Multimeter
2. Wattmeter
3. Dummy Load
4. AN/TSC-85D GMF satellite terminal
5. AN/TSC-93D GMF satellite 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. Digital oscilloscope
13. AN/GSC-54 fiber optic converter
14. Power supply
15. Signal generator
16. Data communications analyzer

2834-OPS-2402: Provide technical assistance during the restoration of satellite communication systems

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

MOS PERFORMING: 2834

GRADES: SGT, SSGT, GYSGT

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. CMS-5 COMSEC Material System Policy & Procedures Manual
3. EKMS-1_ CMS Policy and Procedures for Navy EKMS Tiers 2 & 3
4. Operational Order
5. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety (Aug 91)
6. TM 9999-15/1 ESD Awareness Electro-Static Discharge

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 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

2800 GROUND T&R MANUAL

CHAPTER 9

MOS 2844 INDIVIDUAL EVENTS

2800 GROUND T&R MANUAL

CHAPTER 9

MOS 2844 INDIVIDUAL EVENTS

9000. PURPOSE. This chapter contains individual training events for MOS 2844, Ground Communications Organizational Repairer.

9001. INDIVIDUAL SKILLS

1. Core skills are basic individual skills that make a Marine and qualify them for an MOS. They are the 1000 level skills introduced in the entry level training in the formal schools and refined in operational units.

2. Core Plus Skills are advanced individual skills that are environment, mission, rank or billet specific. They are the 2000 level skills introduced in the entry level managed on the job training in operational units and advanced formal schools training.

9002. EVENT CODING. Events in the T&R Manual are depicted with an 11 or 12 digit alphanumeric system, i.e. XXXX-XXXX-XXXX, utilizing the following methodology:

a. Field one - Each event starts with 28XX. 2800 indicates that the event is a core capability for all Marines within the occupational field. 2844 indicates the event is for 2844, Ground Communications Organizational Repairer, etc.

b. Field two - This field is alpha characters indicating a functional area. The functional areas for this chapter are listed below:

Functional Area	Field Name	Example
Maintenance Planning	PLAN	2844-PLAN-XXXX
Maintenance Administration	ADMN	2844-ADMN-XXXX
Maintenance Actions	ACT	2844-ACT-XXXX
Maintenance Operations	OPS	2844-OPS-XXXX
Maintenance Training	TRNG	2844-TRNG-XXXX

c. Field three - All individual events within T&R Manuals are either 1000-level events that are taught at MOS-producing formal schools or 2000-level events that are taught at advanced-level schools or are MOJT. The first digit indicates whether it is a core (1) or core plus (2) event.

The second digit indicates the associated field and the last two digits indicate the task number. 2303 indicates that it is a core plus task and it is the third task within the Maintenance Actions functional area for that MOS. This chapter contains both level events.

MOS	Field Name	Associated Field Number	Core/ Core Plus	Task	Example
2800	PLAN	101-199	2	1	2800-PLAN-2101
2871	ADMN	201-299	1	4	2871-ADMN-1201
2846	ACT	301-399	2	3	2846-ACT-2303
2821	OPS	401-499	1	2	2821-OPS-1401
2805	TRNG	501-599	2	1	2805-TRNG-2501

9003. INDEX OF 1000-LEVEL EVENTS

9004. 1000-LEVEL EVENTS

2844-ACT-1301: Perform ground common transmission systems restoration

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

MOS PERFORMING: 2844

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, 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. Adhere to cryptographic security regulations.
3. Research applicable technical data pertaining to faulty equipment.
4. Read basic systems diagrams.
5. Measure basic circuit performance.
6. Perform alignments, as required.
7. Isolate faulty systems component.
8. Requisition part, as required.
9. Remove/replace faulty components, as required.
10. Apply authorized modification and technical instructions.
11. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. Applicable technical manuals/publications
2. FEDLOG Federal Logistic Data
3. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
4. Operational Order
5. SL 1-2/3 Index of Authorized Publications in Stock

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Wattmeter
2. Digital transfer device
3. Multimeter
4. Ground common transmission system
5. HYP-57/TSEC vehicular power adapter
6. Mobile intercom system
7. Organizational test set
8. Organizational tool box
9. Distribution box
10. AN/TSEC KY-57

2844-ACT-1302: Perform corrective maintenance on ground common transmission systems to the shop replaceable unit (SRU) level

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

MOS PERFORMING: 2844

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, 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. Research applicable technical data pertaining to faulty equipment
4. Read basic schematic diagrams.
5. Measure basic circuit performance.
6. Perform alignments, as required.
7. Verify firmware/software, as required.
8. Isolate faulty line replaceable unit (LRU).
9. Requisition parts, as required.
10. Remove/replace faulty LRU, as required.
11. Apply authorized modifications and technical instructions.
12. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. Applicable technical manuals/publications
2. FEDLOG Federal Logistic Data
3. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
4. SL 1-2/3 Index of Authorized Publications in Stock

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Wattmeter
2. Power supply
3. Multimeter
4. Ground common transmission system
5. DAGR
6. Organizational toolkit
7. Organizational test set

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.

2844-OPS-1401: Verify the installation of ground common transmission systems

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

MOS PERFORMING: 2844

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

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

STANDARD: To ensure equipment is properly installed and operates in accordance with the appropriate system technical manual.

PERFORMANCE STEPS:
1. Adhere to cryptographic security regulations.
2. Adhere to safety requirements.
3. Verify power source.
4. Verify antenna installation, as required.
5. Perform electromagnetic interference troubleshooting to include checking for proper grounding, cable connection, and perform corrective action when applicable.
6. Provide guidance to correct discrepancies.
7. Verify communications security (COMSEC) connection, as required.
8. Verify equipment operation.
9. Verify remote capabilities, as required.

REFERENCES:
1. Applicable technical manuals/publications
2. MCRP 6-22A Multi-Service Communications Procedures for the Single-Channel Ground Radio
3. TI-5820-25/22 Electromagnetic Environmental Effects (E3) Procedures
4. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety (Aug 91)
5. TM 9999-15/1 ESD Awareness Electro-Static Discharge

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Remote radio control system
2. Ground radio transmission system
3. TSEC/KY-57 Speech Security Equipment (VINSON)
4. Ground tester
5. Organizational toolkit
6. Organizational test set

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CHAPTER 10

MOS 2846 INDIVIDUAL EVENTS

2800 GROUND T&R MANUAL

CHAPTER 10

MOS 2846 INDIVIDUAL EVENTS

10000. PURPOSE. This chapter contains individual training events for MOS 2846, Ground Radio Intermediate Repairman.

10001. INDIVIDUAL SKILLS

1. Core skills are basic individual skills that make a Marine and qualify them for an MOS. They are the 1000 level skills introduced in the entry level training in the formal schools and refined in operational units.

2. Core Plus Skills are advanced individual skills that are environment, mission, rank or billet specific. They are the 2000 level skills introduced in the entry level managed on the job training in operational units and advanced formal schools training.

10002. EVENT CODING. Events in the T&R Manual are depicted with an 11 or 12 digit alphanumeric system, i.e. XXXX-XXXX-XXXX, utilizing the following methodology:

a. Field one - Each event starts with 28XX. 2800 indicates that the event is a core capability for all Marines within the occupational field. 2844 indicates the event is for 2844, Ground Communications Organizational Repairer, etc.

b. Field two - This field is alpha characters indicating a functional area. The functional areas for this chapter are listed below:

Functional Area	Field Name	Example
Maintenance Planning	PLAN	2844-PLAN-XXXX
Maintenance Administration	ADMN	2844-ADMN-XXXX
Maintenance Actions	ACT	2844-ACT-XXXX
Maintenance Operations	OPS	2844-OPS-XXXX
Maintenance Training	TRNG	2844-TRNG-XXXX

c. Field three - All individual events within T&R Manuals are either 1000-level events that are taught at MOS-producing formal schools or 2000-level events that are taught at advanced-level schools or are MOJT. The first digit indicates whether it is a core (1) or core plus (2) event.

The second digit indicates the associated field and the last two digits indicate the task number. 2303 indicates that it is a core plus task and it is the third task within the Maintenance Actions functional area for that MOS. This chapter contains both level events.

MOS	Field Name	Associated Field Number	Core/ Core Plus	Task	Example
2800	PLAN	101-199	2	1	2800-PLAN-2101
2871	ADMN	201-299	1	4	2871-ADMN-1201
2846	ACT	301-399	2	3	2846-ACT-2303
2821	OPS	401-499	1	2	2821-OPS-1401
2805	TRNG	501-599	2	1	2805-TRNG-2501

10003. INDEX OF 1000-LEVEL EVENTS

10004. 1000-LEVEL EVENTS

2846-ACT-1301: Perform corrective maintenance on ground common transmission systems to the shop replaceable unit (SRU) level

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

MOS PERFORMING: 2846

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. Adhere to cryptographic security regulations.
3. Research applicable technical data pertaining to faulty equipment.
4. Ensure proper handling of static sensitive components/printed circuit cards.
5. Verify firmware/software, as required.
6. Upgrade/reinstall firmware/software, as required.
7. Read schematic diagrams.
8. Calculate circuit parameters.
9. Measure circuit performance.
10. Perform alignments, as required.
11. Trace signal paths.
12. Trace current/voltage paths.
13. Identify faulty secondary replaceable unit/chassis mounted components.
14. Replace faulty components, as required.
15. Apply authorized modifications and technical instructions.
16. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. Applicable technical manuals/publications
2. CMS-5 COMSEC Material System Policy & Procedures Manual
3. EKMS-1_ CMS Policy and Procedures for Navy EKMS Tiers 2 & 3
4. FEDLOG Federal Logistic Data
5. MCO P4790.1 Marine Corps Integrated Maintenance Management System (MIMMS) Manual
6. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
7. Maintenance Float Catalog Maintenance Float Catalog
8. SL 1-2/3 Index of Authorized Publications in Stock
9. SL-4 Repair, Maintenance, and Management Lists
10. TM 9999-15/1 ESD Awareness Electro-Static Discharge
11. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:

1. Wattmeter
2. Digital transfer device
3. Power supply
4. ON-373A/GRC Interconnecting Group
5. Ground common transmission system
6. ATE
7. Multimeter
8. Signal generator
9. Function generator
10. Oscilloscope
11. Toolkit
12. Laptop computer

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.

2800 GROUND T&R MANUAL

CHAPTER 11

MOS 2847 INDIVIDUAL EVENTS

2800 GROUND T&R MANUAL

CHAPTER 11

MOS 2847 INDIVIDUAL EVENTS

11000. PURPOSE. This chapter contains individual training events for MOS 2847, Telephone Systems/Personal Computer Repairer.

11001. INDIVIDUAL SKILLS

1. Core skills are basic individual skills that make a Marine and qualify them for an MOS. They are the 1000 level skills introduced in the entry level training in the formal schools and refined in operational units.

2. Core Plus Skills are advanced individual skills that are environment, mission, rank or billet specific. They are the 2000 level skills introduced in the entry level managed on the job training in operational units and advanced formal schools training.

11002. EVENT CODING. Events in the T&R Manual are depicted with an 11 or 12 digit alphanumeric system, i.e. XXXX-XXXX-XXXX, utilizing the following methodology:

a. Field one - Each event starts with 28XX. 2800 indicates that the event is a core capability for all Marines within the occupational field. 2844 indicates the event is for 2844, Ground Communications Organizational Repairer, etc.

b. Field two - This field is alpha characters indicating a functional area. The functional areas for this chapter are listed below:

Functional Area	Field Name	Example
Maintenance Planning	PLAN	2844-PLAN-XXXX
Maintenance Administration	ADMN	2844-ADMN-XXXX
Maintenance Actions	ACT	2844-ACT-XXXX
Maintenance Operations	OPS	2844-OPS-XXXX
Maintenance Training	TRNG	2844-TRNG-XXXX

c. Field three - All individual events within T&R Manuals are either 1000-level events that are taught at MOS-producing formal schools or 2000-level events that are taught at advanced-level schools or are MOJT. The first digit indicates whether it is a core (1) or core plus (2) event.

The second digit indicates the associated field and the last two digits indicate the task number. 2303 indicates that it is a core plus task and it is the third task within the Maintenance Actions functional area for that MOS. This chapter contains both level events.

MOS	Field Name	Associated Field Number	Core/ Core Plus	Task	Example
2800	PLAN	101-199	2	1	2800-PLAN-2101
2871	ADMN	201-299	1	4	2871-ADMN-1201
2846	ACT	301-399	2	3	2846-ACT-2303
2821	OPS	401-499	1	2	2821-OPS-1401
2805	TRNG	501-599	2	1	2805-TRNG-2501

11003. INDEX OF 1000-LEVEL EVENTS

11004. 1000-LEVEL EVENTS

2847-ACT-1301: Perform corrective maintenance on ground common telephony systems to the shop replaceable unit (SRU) level

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

MOS PERFORMING: 2847

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. Verify firmware/software, as required.
4. Upgrade/reinstall firmware/software, as required.
5. Verify system configuration, as required.
6. Read schematic diagrams.
7. Calculate circuit parameters.
8. Ensure proper handling of static sensitive components/printed circuit cards.
9. Measure circuit performance.
10. Perform alignments, as required.
11. Identify faulty secondary replaceable unit/chassis mounted components.
12. Remove/replace faulty components, as required.
13. Apply authorized modifications and technical instructions.
14. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. Applicable technical manuals/publications
2. FEDLOG Federal Logistic Data
3. Maintenance Float Catalog Maintenance Float Catalog
4. SL 1-2/3 Index of Authorized Publications in Stock
5. TM 9999-15/1 ESD Awareness Electro-Static Discharge

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. GPETE
2. Data transfer device
3. Laptop computer
4. Power supply
5. Ground common telephony system

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.

2847-ACT-1302: Perform corrective maintenance on ground common data networking systems to the shop replaceable unit (SRU) level

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

MOS PERFORMING: 2847

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. Adhere to Information Assurance (IA) regulations.
3. Research applicable technical data pertaining to faulty equipment.
4. Read schematic diagram.
5. Calculate circuit parameters.
6. Measure circuit performance.
7. Ensure proper handling of static sensitive components/printed circuit cards.
8. Identify faulty components.
9. Evacuate to higher echelon, as required.
10. Remove/replace faulty components, as required.
11. Apply authorized modifications and technical instructions.
12. Research upgrades and drivers.

REFERENCES:
1. Applicable technical manuals/publications
2. FEDLOG Federal Logistic Data
3. SL 1-2/3 Index of Authorized Publications in Stock
4. SL-4 Repair, Maintenance, and Management Lists
5. TM 9999-15/1 ESD Awareness Electro-Static Discharge

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. GPETE
2. Data networking systems
3. Maintenance kit
4. Peripheral devices

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.

2847-ACT-1303: Perform corrective maintenance on fiber optic cable

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

MOS PERFORMING: 2847

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, an assigned maintenance area, faulty cable, 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 regulations.
2. Research appropriate technical data.
3. Measure cable performance.
4. Isolate faulty components/areas.
5. Requisition repair part, as required.
6. Replace faulty connectors, as required.
7. Apply authorized modifications and technical instructions.
8. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. Applicable technical manuals/publications
2. FEDLOG Federal Logistic Data

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Optical communications test set
2. Visual fiber optic fault finder
3. Optical Time Domain Reflector (OTDR)
4. Termination kit

11003. INDEX OF 2000-LEVEL EVENTS

11003. 2000-LEVEL EVENTS

2847-ACT-2301: Perform corrective maintenance on ground common laser printers

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

MOS PERFORMING: 2847

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: MOJT

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 diagram.
4. Calculate circuit parameters.
5. Measure circuit performance.
6. Ensure proper handling of static sensitive components/printed circuit cards.
7. Identify faulty components.
8. Evacuate to higher echelon, as required.
9. Requisition repair parts, as required.
10. Remove/replace faulty components, as required.
11. Apply authorized modifications and technical instructions.
12. Research upgrades and drivers.

REFERENCES:
1. Applicable technical manuals/publications
2. FEDLOG Federal Logistic Data
3. SL 1-2/3 Index of Authorized Publications in Stock
4. SL-4 Repair, Maintenance, and Management Lists
5. TM 09999-15/1 ESD Awareness

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. GPETE
2. Printer
3. Maintenance kit

2800 GROUND T&R MANUAL

CHAPTER 12

MOS 2848 INDIVIDUAL EVENTS

2800 GROUND T&R MANUAL

CHAPTER 12

MOS 2848 INDIVIDUAL EVENTS

12000. PURPOSE. This chapter contains individual training events for MOS 2848, Tactical Remote Sensor System (TRSS) Maintainer.

12001. INDIVIDUAL SKILLS

1. Core skills are basic individual skills that make a Marine and qualify them for an MOS. They are the 1000 level skills introduced in the entry level training in the formal schools and refined in operational units.

2. Core Plus Skills are advanced individual skills that are environment, mission, rank or billet specific. They are the 2000 level skills introduced in the entry level managed on the job training in operational units and advanced formal schools training.

12002. EVENT CODING. Events in the T&R Manual are depicted with an 11 or 12 digit alphanumeric system, i.e. XXXX-XXXX-XXXX, utilizing the following methodology:

a. Field one - Each event starts with 28XX. 2800 indicates that the event is a core capability for all Marines within the occupational field. 2844 indicates the event is for 2844, Ground Communications Organizational Repairer, etc.

b. Field two - This field is alpha characters indicating a functional area. The functional areas for this chapter are listed below:

Functional Area	Field Name	Example
Maintenance Planning	PLAN	2844-PLAN-XXXX
Maintenance Administration	ADMN	2844-ADMN-XXXX
Maintenance Actions	ACT	2844-ACT-XXXX
Maintenance Operations	OPS	2844-OPS-XXXX
Maintenance Training	TRNG	2844-TRNG-XXXX

c. Field three - All individual events within T&R Manuals are either 1000-level events that are taught at MOS-producing formal schools or 2000-level events that are taught at advanced-level schools or are MOJT. The first digit indicates whether it is a core (1) or core plus (2) event.

The second digit indicates the associated field and the last two digits indicate the task number. 2303 indicates that it is a core plus task and it is the third task within the Maintenance Actions functional area for that MOS. This chapter contains both level events.

MOS	Field Name	Associated Field Number	Core/ Core Plus	Task	Example
2800	PLAN	101-199	2	1	2800-PLAN-2101
2871	ADMN	201-299	1	4	2871-ADMN-1201
2846	ACT	301-399	2	3	2846-ACT-2303
2821	OPS	401-499	1	2	2821-OPS-1401
2805	TRNG	501-599	2	1	2805-TRNG-2501

12003. INDEX OF 2000-LEVEL EVENTS

12004. 2000-LEVEL EVENTS

2848-ACT-2301: Perform corrective maintenance on the Tactical Remote Sensor System

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

DESCRIPTION: Necessary MOS 2848 is assigned to qualified Marines in PMOS of 2846 or 2862.

MOS PERFORMING: 2848

GRADES: LCPL, CPL, SGT, SSGT

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. Calculate circuit parameters.
5. Ensure proper handling of static sensitive components/printed circuit cards.
6. Measure basic circuit performance.
7. Perform alignments, as required.
8. Trace signal paths.
9. Trace current/voltage paths.
10. Isolate faulty component(s).
11. Requisition repair parts, as required.
12. Remove/replace faulty component(s), as required.
13. Research authorized modification and technical instructions.
14. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. Applicable technical manuals/publications
2. FEDLOG Federal Logistic Data
3. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
4. Maintenance Float Catalog Maintenance Float Catalog
5. SL 1-2/3 Index of Authorized Publications in Stock
6. SL-4 Repair, Maintenance, and Management Lists
7. TM 9999-15/1 ESD Awareness Electro-Static Discharge
8. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Semiconductor device test set

2. Oscilloscope
3. Function generator
4. Digital multimeter
5. Wattmeter
6. Signal Generator
7. AN/GSQ-261 Tactical Remote Sensor System (TRSS)
8. AN/USM-657(V2) Third Echelon Test System (TETS)
9. Spectrum analyzer
10. J-4843A/GRM test adapter
11. TS-4317/GRM Radio Test Set

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.

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CHAPTER 13

MOS 2862 INDIVIDUAL EVENTS

2800 GROUND T&R MANUAL

CHAPTER 13

MOS 2862 INDIVIDUAL EVENTS

13000. PURPOSE. This chapter contains individual training events for MOS 2862, Electronics Maintenance Technician.

13001. INDIVIDUAL SKILLS

1. Core skills are basic individual skills that make a Marine and qualify them for an MOS. They are the 1000 level skills introduced in the entry level training in the formal schools and refined in operational units.

2. Core Plus Skills are advanced individual skills that are environment, mission, rank or billet specific. They are the 2000 level skills introduced in the entry level managed on the job training in operational units and advanced formal schools training.

13002. EVENT CODING. Events in the T&R Manual are depicted with an 11 or 12 digit alphanumeric system, i.e. XXXX-XXXX-XXXX, utilizing the following methodology:

a. Field one - Each event starts with 28XX. 2800 indicates that the event is a core capability for all Marines within the occupational field. 2844 indicates the event is for 2844, Ground Communications Organizational Repairer, etc.

b. Field two - This field is alpha characters indicating a functional area. The functional areas for this chapter are listed below:

Functional Area	Field Name	Example
Maintenance Planning	PLAN	2844-PLAN-XXXX
Maintenance Administration	ADMN	2844-ADMN-XXXX
Maintenance Actions	ACT	2844-ACT-XXXX
Maintenance Operations	OPS	2844-OPS-XXXX
Maintenance Training	TRNG	2844-TRNG-XXXX

c. Field three - All individual events within T&R Manuals are either 1000-level events that are taught at MOS-producing formal schools or 2000-level events that are taught at advanced-level schools or are MOJT. The first digit indicates whether it is a core (1) or core plus (2) event.

The second digit indicates the associated field and the last two digits indicate the task number. 2303 indicates that it is a core plus task and it is the third task within the Maintenance Actions functional area for that MOS. This chapter contains both level events.

MOS	Field Name	Associated Field Number	Core/ Core Plus	Task	Example
2800	PLAN	101-199	2	1	2800-PLAN-2101
2871	ADMN	201-299	1	4	2871-ADMN-1201
2846	ACT	301-399	2	3	2846-ACT-2303
2821	OPS	401-499	1	2	2821-OPS-1401
2805	TRNG	501-599	2	1	2805-TRNG-2501

13003. INDEX OF 2000-LEVEL EVENTS

13004. 2000-LEVEL EVENTS

2862-ACT-2301: Perform advanced corrective maintenance on ground common transmission systems to the piece-part component level

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

MOS PERFORMING: 2862

GRADES: SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, an assigned maintenance area, 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. Adhere to cryptographic security regulations.
3. Ensure proper handling of static sensitive components/printed circuit cards.
4. Conduct system fault analysis.
5. Research applicable technical data pertaining to faulty equipment.
6. Interpret complex schematic diagrams.
7. Calculate complex electronic circuit parameters.
8. Measure complex electronic circuit performance.
9. Trace signal paths, e.g., current/voltage.
10. Develop troubleshooting tools utilizing ATE as required.
11. Isolate faulty components.
12. Determine acquisition method for repair parts.
13. Remove/replace faulty components, as required.
14. Apply authorized modifications and technical instructions.
15. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. 29 CFR1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
2. Applicable technical manuals/publications
3. CMS-5 COMSEC Material System Policy & Procedures Manual
4. EKMS-1_ CMS Policy and Procedures for Navy EKMS Tiers 2 & 3
5. FEDLOG Federal Logistic Data
6. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
7. SL 1-2/3 Index of Authorized Publications in Stock
8. SL-4 Repair, Maintenance, and Management Lists
9. TM 9999-15/1 ESD Awareness Electro-Static Discharge
10. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Oscilloscope

2. Multimeter
3. Wattmeter
4. Dummy Load
5. Function generator
6. Tool Kit
7. DAGR
8. Power Supply
9. Frequency counter
10. Spectrum analyzer
11. Digital transfer device
12. Ground common transmission system
13. Data communications analyzer
14. ATE

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.

2862-ACT-2302: Perform advanced corrective maintenance on ground common telephony switching systems to the piece-part component level

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

MOS PERFORMING: 2862

GRADES: SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, an assigned maintenance area, 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. Adhere to cryptographic security regulations.
3. Ensure proper handling of static sensitive components/printed circuit cards.
4. Conduct system fault analysis.
5. Research applicable technical data pertaining to faulty equipment.
6. Validate firmware/software, as required.
7. Reinstall firmware/software, as required.
8. Upgrade firmware/software, as required.
9. Interpret complex schematic diagrams.
10. Calculate complex electronic circuit parameters.
11. Measure complex electronic circuit performance.
12. Trace signal paths, e.g., current/voltage.
13. Develop trouble shooting tools utilizing ATE as required.

14. Isolate faulty components.
15. Determine acquisition method for repair parts.
16. Remove/replace faulty components, as required.
17. Apply authorized modifications and technical instructions.
18. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. 29 CFR1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
2. Applicable technical manuals/publications
3. CMS-5 COMSEC Material System Policy & Procedures Manual
4. EKMS-1_ CMS Policy and Procedures for Navy EKMS Tiers 2 & 3
5. FEDLOG Federal Logistic Data
6. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
7. SL 1-2/3 Index of Authorized Publications in Stock
8. SL-4 Repair, Maintenance, and Management Lists
9. TM 9999-15/1 ESD Awareness Electro-Static Discharge
10. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Oscilloscope
2. Multimeter
3. Function generator
4. Power supply
5. Ground common telephony switching system
6. Data transfer device
7. TA-977/PT Tone Signaling Adapter
8. TD-1234 Multiplexer Combiner
9. ATE
10. DAGR
11. Data analyzer
12. Power meter
13. Tool kit

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.

2862-ACT-2303: Perform advanced corrective maintenance on data networking systems to the piece-part component level

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

MOS PERFORMING: 2862

GRADES: SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, an assigned maintenance area, 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. Adhere to cryptographic security regulations.
3. Ensure proper handling of static sensitive components/printed circuit cards.
4. Conduct system fault analysis.
5. Research applicable technical data pertaining to faulty equipment.
6. Validate firmware/software, as required.
7. Upgrade firmware/software, as required.
8. Reinstall firmware/software, as required.
9. Measure electronic circuit performance.
10. Troubleshoot using PC diagnostic tools, as required.
11. Isolate faulty components.
12. Determine acquisition method for repair parts.
13. Remove/replace faulty components, as required.
14. Apply authorized modifications and technical instructions.
15. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:

1. 29 CFR1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
2. Applicable technical manuals/publications
3. CMS-5 COMSEC Material System Policy & Procedures Manual
4. EKMS-1_ CMS Policy and Procedures for Navy EKMS Tiers 2 & 3
5. FEDLOG Federal Logistic Data
6. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
7. SL 1-2/3 Index of Authorized Publications in Stock
8. SL-4 Repair, Maintenance, and Management Lists
9. TM 9999-15/1 ESD Awareness Electro-Static Discharge
10. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:

1. Took Kit
2. Desktop computer
3. Laptop computer
4. Network router
5. Network hub
6. Network server
7. Tactical Data Network (TDN)
8. DDS

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.

2800 GROUND T&R MANUAL

CHAPTER 14

MOS 2871 INDIVIDUAL EVENTS

2800 GROUND T&R MANUAL

CHAPTER 14

MOS 2871 INDIVIDUAL EVENTS

14000. PURPOSE. This chapter contains individual training events for MOS 2871, Calibration Technician.

14001. INDIVIDUAL SKILLS

1. Core skills are basic individual skills that make a Marine and qualify them for an MOS. They are the 1000 level skills introduced in the entry level training in the formal schools and refined in operational units.

2. Core Plus Skills are advanced individual skills that are environment, mission, rank or billet specific. They are the 2000 level skills introduced in the entry level managed on the job training in operational units and advanced formal schools training.

14002. EVENT CODING. Events in the T&R Manual are depicted with an 11 or 12 digit alphanumeric system, i.e. XXXX-XXXX-XXXX, utilizing the following methodology:

a. Field one - Each event starts with 28XX. 2800 indicates that the event is a core capability for all Marines within the occupational field. 2844 indicates the event is for 2844, Ground Communications Organizational Repairer, etc.

b. Field two - This field is alpha characters indicating a functional area. The functional areas for this chapter are listed below:

Functional Area	Field Name	Example
Maintenance Planning	PLAN	2844-PLAN-XXXX
Maintenance Administration	ADMN	2844-ADMN-XXXX
Maintenance Actions	ACT	2844-ACT-XXXX
Maintenance Operations	OPS	2844-OPS-XXXX
Maintenance Training	TRNG	2844-TRNG-XXXX

c. Field three - All individual events within T&R Manuals are either 1000-level events that are taught at MOS-producing formal schools or 2000-level events that are taught at advanced-level schools or are MOJT. The first digit indicates whether it is a core (1) or core plus (2) event.

The second digit indicates the associated field and the last two digits indicate the task number. 2303 indicates that it is a core plus task and it is the third task within the Maintenance Actions functional area for that MOS. This chapter contains both level events.

MOS	Field Name	Associated Field Number	Core/ Core Plus	Task	Example
2800	PLAN	101-199	2	1	2800-PLAN-2101
2871	ADMN	201-299	1	4	2871-ADMN-1201
2846	ACT	301-399	2	3	2846-ACT-2303
2821	OPS	401-499	1	2	2821-OPS-1401
2805	TRNG	501-599	2	1	2805-TRNG-2501

14003. INDEX OF 1000-LEVEL EVENTS

14004. 1000-LEVEL EVENTS

2871-ADMN-1201: Complete calibration maintenance documents and forms

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

MOS PERFORMING: 2871

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, documents, equipment, applicable maintenance management forms and software.

STANDARD: In accordance with TI 4733-OD/1.

PERFORMANCE STEPS:
1. Input information into the automated calibration information system.
2. Reconcile calibration information.
3. Produce induction label(s).
4. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. 17-35MTL-1 Electronic Version of METRL (METPRO)
2. TM 10811A-3/5 Visual Labmate User's Manual
3. Technical Instruction Series 4733 Marine Corps Calibration and Maintenance Programs
4. UM 4400-124 Sassy Using Unit Procedures
5. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment
1. Data acquisition control group

2871-ACT-1301: Perform corrective maintenance on Test Measurement and Diagnostic Equipment

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

MOS PERFORMING: 2871

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, an assigned maintenance area, 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 equipment.
3. Read schematic diagrams.
4. Verify configurations, as required.
5. Calculate basic electronic circuit performance.
6. Ensure proper handling of static sensitive components/printed circuit cards.
7. Measure circuit performance.
8. Trace signal paths in basic electronic circuits.
9. Trace current/voltage paths in basic electronic circuits.
10. Perform alignments, as required.
11. Isolate faulty components, as required.
12. Requisition repair parts.
13. Replace faulty components.
14. Apply authorized modifications and technical instructions.
15. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:

1. Applicable technical manuals/publications
2. FEDLOG Federal Logistic Data
3. ISBN 0-02-800762-X GROB Basic Electronics 7th Edition
4. ISBN 0-02-801845-1 Electronics Principles and Applications 4th Edition
5. ISBN 0-13-250704-8 Electronics with Digital and Analog
6. ISBN 0-13-889585-6 Electricity One-Seven 2nd Edition
7. ISBN 0-675-21217-0 Digital Fundamentals 4th Edition
8. ISBN 0-8359-4283-X Mathematics Applied to Electronics 2nd Edition
9. TM 10510-14/1 Electronic Test Equipment Listing
10. TM 9999-15/1 ESD Awareness Electro-Static Discharge

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:

1. Function generator
2. Digital multimeter
3. Digital oscilloscope
4. Signal generator
5. Universal counter
6. Automated test equipment
7. Communication test set
8. Power supply
9. Data acquisition control group
10. Low frequency repair station
11. Communication repair station
12. Computer assisted basic electronics training system
13. Power supply load
14. Variable isolation transformer and safety analyzer
15. Tool kit

MATERIAL: Distance Learning Products Available:

1. MCI 2820, Electronics Mathematics for Marines

2. MCI 286G, Fundamentals of Digital Logic
3. MCI 287A, Introduction to Test Measurement and Diagnostic Equipment

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2871-ACT-1302: Calibrate Test Measurement and Diagnostic Equipment

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

MOS PERFORMING: 2871

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, an assigned maintenance area, equipment to be calibrated, materials and tools.

STANDARD: In accordance with TI 4733-35/23 and MCSC PM-TMDE approved instrument calibration procedures.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Adhere to connector care requirements.
3. Adhere to quality requirements.
4. Perform operational check.
5. Verify accuracy of Test Measurement and Diagnostic Equipment utilizing appropriate calibration procedure.
6. Ensure proper handling of static sensitive components/printed circuit cards.
7. Verify authorized modification and technical instructions.
8. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. 17-35FR-06 Facilities Requirements
2. 17-35MTL-1 Electronic Version of METRL (METPRO)
3. Applicable technical manuals/publications
4. FEDLOG Federal Logistic Data
5. TI 4733-35/24 Quality Manual
6. TM 10510-14/1 Electronic Test Equipment Listing
7. TM 9999-15/1 ESD Awareness Electro-Static Discharge
8. Technical Instruction Series 4733 Marine Corps Calibration and Maintenance Programs

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Function generator
2. Digital multimeter
3. Digital oscilloscope
4. Signal generator
5. Universal counter
6. Automated test equipment
7. Communication test set

8. Torque wrench
9. Torque multiplier
10. Tachometer
11. Tensiometer
12. Spring Scale
13. Platform Scale
14. Pressure Gauge
15. Vacuum Gauge
16. Compound Gauge
17. Torque Screwdrivers
18. Wheel Scales
19. Thermometer
20. Force/Mass standard station
21. Torque standard station
22. Oscilloscope station
23. Temperature standard station
24. Pressure standard station
25. Automotive standard station
26. Multimeter station
27. Data acquisition control group
28. Signal generator standard station
29. Low frequency station
30. On site station
31. Communication standard station
32. High frequency shared station
33. Mechanical shared station

MATERIAL: Distance Learning Products Available:
1. MCI 2820, Electronics Mathematics for Marines
2. MCI 286G, Fundamentals of Digital Logic
3. MCI 287A, Introduction to Test Measurement and Diagnostic Equipment

2800 GROUND T&R MANUAL

CHAPTER 15

MOS 2874 INDIVIDUAL EVENTS

2800 GROUND T&R MANUAL

CHAPTER 15

MOS 2874 INDIVIDUAL EVENTS

15000. PURPOSE. This chapter contains individual training events for MOS 2874, Metrology Technician.

15001. INDIVIDUAL SKILLS

1. Core skills are basic individual skills that make a Marine and qualify them for an MOS. They are the 1000 level skills introduced in the entry level training in the formal schools and refined in operational units.

2. Core Plus Skills are advanced individual skills that are environment, mission, rank or billet specific. They are the 2000 level skills introduced in the entry level managed on the job training in operational units and advanced formal schools training.

15002. EVENT CODING. Events in the T&R Manual are depicted with an 11 or 12 digit alphanumeric system, i.e. XXXX-XXXX-XXXX, utilizing the following methodology:

a. Field one - Each event starts with 28XX. 2800 indicates that the event is a core capability for all Marines within the occupational field. 2844 indicates the event is for 2844, Ground Communications Organizational Repairer, etc.

b. Field two - This field is alpha characters indicating a functional area. The functional areas for this chapter are listed below:

Functional Area	Field Name	Example
Maintenance Planning	PLAN	2844-PLAN-XXXX
Maintenance Administration	ADMN	2844-ADMN-XXXX
Maintenance Actions	ACT	2844-ACT-XXXX
Maintenance Operations	OPS	2844-OPS-XXXX
Maintenance Training	TRNG	2844-TRNG-XXXX

c. Field three - All individual events within T&R Manuals are either 1000-level events that are taught at MOS-producing formal schools or 2000-level events that are taught at advanced-level schools or are MOJT. The first digit indicates whether it is a core (1) or core plus (2) event.

The second digit indicates the associated field and the last two digits indicate the task number. 2303 indicates that it is a core plus task and it is the third task within the Maintenance Actions functional area for that MOS. This chapter contains both level events.

MOS	Field Name	Associated Field Number	Core/ Core Plus	Task	Example
2800	PLAN	101-199	2	1	2800-PLAN-2101
2871	ADMN	201-299	1	4	2871-ADMN-1201
2846	ACT	301-399	2	3	2846-ACT-2303
2821	OPS	401-499	1	2	2821-OPS-1401
2805	TRNG	501-599	2	1	2805-TRNG-2501

15003. INDEX OF 2000-LEVEL EVENTS

15004. 2000-LEVEL EVENTS

2874-PLAN-2101: Plan Test Measurement and Diagnostic Equipment maintenance support

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

MOS PERFORMING: 2874

GRADES: SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, Commander's guidance, equipment, a mission and personnel.

STANDARD: In accordance with MCO P4733.1B and MCO P4790.2_, Appendix E.

PERFORMANCE STEPS:
1. Determine unit capabilities.
2. Determine supported unit requirements.
3. Determine locations of supported equipment.
4. Determine supply support.
5. Determine logistical support.
6. Determine personnel requirements.
7. Determine facility requirements (consider environmental considerations).
8. Determine security requirements.
9. Determine fiscal requirements.

REFERENCES:
1. Applicable technical manuals/publications
2. CMR Consolidated Memorandum Report
3. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
4. MCO P5090.2A Environmental Compliance and Protection Manual (Jul 98)
5. MCWP 5-1 Marine Corps Planning Process
6. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety (Aug 91)
7. UNIT SOP Unit's Standing Operating Procedures
8. Unit TO/E Table of Organization/Equipment

2874-PLAN-2102: Manage laboratory standards traceability

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

MOS PERFORMING: 2874

GRADES: SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

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

STANDARD: In accordance with TI 4733-35/24.

PERFORMANCE STEPS:
1. Coordinate receipt of standards.
2. Schedule laboratory standards for calibration.
3. Schedule personnel to perform maintenance action.
4. Coordinate shipment of standards.
5. Maintain laboratory standards.

REFERENCES:
1. 29 CFR1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
2. MCO 4733.1B Marine Corps Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP) (Jun 99)
3. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
4. MSDS Material Safety Data Sheets
5. TM 10510-14/1 Electronic Test Equipment Listing
6. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

2874-PLAN-2103: Manage laboratory quality program

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

MOS PERFORMING: 2874

GRADES: SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

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

STANDARD: In accordance with TI 4733-35/24.

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. CMR Consolidated Memorandum Report
3. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
4. MCO P5090.2A Environmental Compliance and Protection Manual (Jul 98)
5. MCWP 5-1 Marine Corps Planning Process
6. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety (Aug 91)
7. UNIT SOP Unit's Standing Operating Procedures
8. Unit TO/E Table of Organization/Equipment

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment: Calibration Facility

2874-PLAN-2104: Manage calibration automated information system

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

MOS PERFORMING: 2874

GRADES: SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: FORMAL

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

STANDARD: In accordance with TM 10811A-OD&P/1_.

PERFORMANCE STEPS:
1. Maintain automated information system database.
2. Maintain automated information system software.
3. Maintain automated information system hardware.
4. Perform automated information system recovery plan.

REFERENCES:
1. 29 CFR1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
2. Applicable technical manuals/publications
3. MCO 4733.1B Marine Corps Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP) (Jun 99)
4. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
5. TM 10510-14/1 Electronic Test Equipment Listing
6. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

2874-PLAN-2105: 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 Program 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 AN/TSM-214A Expeditionary TMDE Maintenance System (ETMS).
4. Coordinate with the Calibration TMDE Management Systems (CTMS) Team Leader 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. Review quality audits and participate in surveillance visits to Marine Forces Calibration Facilities.
7. Represent the Program 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 Program 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 AN/TSM-214A Expeditionary TMDE Maintenance System (ETMS).

REFERENCES:

1. Applicable technical manuals/publications
2. Higher Headquarters Directives
3. MCO 4105.2 Marine Corps Warranty Program
4. Contracting Officer Representative (COR) ICE2 Handbook
5. DoDD 5000.01 Defense Acquisition System
6. DoDD 5000.02 Defense Acquisition Regulations
7. MCO 4081.2 Performance Based Logistics (PBL)
8. MCO 5000.19 Marine Corps Systems Command
9. TM 4420-15/1 Lifecycle Logistics and the Material Fielding Process
10. MCO 4000.57 Total Life Cycle Management
11. MCO 4000.58 Marine Corps Logistics Command
12. CJCSI 3170.01 Joint Capabilities Integration Development System
13. CJCSM 3170.01 Operation of the Joint Capabilities Integration Development System
14. MCO 3900.15 Expeditionary Force Development System
15. Title 10 USC
16. MCO 5000.19 Marine Corps Systems Command
17. SECNAVINST 5000.2 Implementation and Operation of the Defense Acquisition System and the Joint Capabilities Integration and Development System
18. SECNAVINST 4105.1 INDEPENDENT LOGISTICS ASSESSMENT (ILA) AND CERTIFICATION REQUIREMENTS
19. SECNAVINST 5420.188 ACQUISITION CATEGORY (ACAT) PROGRAM DECISION PROCESS
20. Federal Acquisition Regulation (FAR) Vol 1&2
21. MCO 4733.1B Marine Corps Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)

2874-PLAN-2106: Perform the duties as SNCOIC, TMDE School

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

MOS PERFORMING: 2874

GRADES: MGYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, Instructors, Students, Commander's guidance and a table of organization and equipment.

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 1553.5_.

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 Calibrations Technicians Course (CTC) and Metrology Technicians Course (MTC).
4. Chair all Academic Review Boards (ARB) for all students.
5. Review and make changes and recommendations to: after instruction reports (AIRs), POIs, Quota Memorandum (TQM) and TECOM Integrated Management System (TIMS) 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
2. MCO 1553.1B The Marine Corps Training and Education System
3. MCO 1553.2_ Management of Marine Corps Formal Schools and Training Detachments (Nov 03)
4. MCO 1553.5_ Marine Corps Training and Education Evaluation
5. NAVMC 3500.6 Ground Electronics Maintenance Training and Readiness Manual
6. SAT MANUAL Systems Approach to Training Manual
7. Unit TO/E Table of Organization/Equipment
8. Higher Headquarters Directives

2874-ACT-2301: Calibrate laboratory standards

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

MOS PERFORMING: 2874

GRADES: SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

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

STANDARD: In accordance with TI 4733-35/23 and MCSC PM-TMDE approved instrument calibration procedures.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Adhere to connector care requirements.
3. Adhere to quality requirements.
4. Verify accuracy of electronic standards utilizing appropriate calibration procedures, as required.
5. Verify accuracy of mechanical standards utilizing appropriate calibration procedures, as required.
6. Verify accuracy of physical standards utilizing appropriate calibration procedures, as required.
7. Verify accuracy of dimensional standards utilizing appropriate calibration procedures, as required.
8. Apply authorized modifications and technical instructions.
9. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. 29 CFR1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
2. MCO 4733.1B Marine Corps Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP) (Jun 99)
3. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
4. TM 10510-14/1 Electronic Test Equipment Listing
5. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: This task applies to the equipment noted in the most recent edition of TI-4733-35/8.

2874-ACT-2302: Calibrate microwave measurement equipment

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

MOS PERFORMING: 2874

GRADES: SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

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

STANDARD: In accordance with TI 4733-35/23 and MCSC PM-TMDE approved instrument calibration procedures.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Adhere to connector care requirements.
3. Adhere to quality requirements.
4. Verify accuracy of microwave measurement equipment utilizing appropriate calibration procedures.
5. Apply authorized modifications and technical instructions.
6. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. 29 CFR1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
2. MCO 4733.1B Marine Corps Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP) (Jun 99)
3. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
4. TM 10510-14/1 Electronic Test Equipment Listing
5. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: This task applies to the equipment noted in the most recent edition of TI-4733-35/8.

2874-ACT-2303: Calibrate electro-optic equipment

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

MOS PERFORMING: 2874

GRADES: SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

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

STANDARD: In accordance with TI 4733-35/23 and MCSC PM-TMDE approved instrument calibration procedures.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Adhere to connector care requirements.
3. Adhere to quality requirements.
4. Verify accuracy of electro-optic equipment utilizing appropriate calibration procedures.
5. Apply authorized modifications and technical instructions.
6. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. 29 CFR1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
2. MCO 4733.1B Marine Corps Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP) (Jun 99)
3. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
4. TM 10510-14/1 Electronic Test Equipment Listing
5. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: This task applies to the equipment noted in the most recent edition of TI-4733-35/8.

2874-ACT-2304: Calibrate dimensional equipment

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

MOS PERFORMING: 2874

GRADES: SGT, SSGT, GYSGT, MSGT

INITIAL TRAINING SETTING: FORMAL

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

STANDARD: In accordance with TI 4733-35/23 and MCSC PM-TMDE approved instrument calibration procedures.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Adhere to quality requirements.
3. Verify accuracy of dimensional equipment utilizing appropriate calibration procedures.
4. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. 29 CFR1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
2. MCO 4733.1B Marine Corps Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP) (Jun 99)
3. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
4. TM 10510-14/1 Electronic Test Equipment Listing
5. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

MISCELLANEOUS:

ADMINISTRATIVE INSTRUCTIONS: This task applies to the equipment noted in the most recent edition of TI-4733-35/8.

2874-OPS-2401: Deploy a calibration maintenance facility

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

MOS PERFORMING: 2874

GRADES: SSGT, GYSGT, MSGT,

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, Commander's guidance, equipment, materials and tools.

STANDARD: In accordance with the MCO P4790.2_, Appendix E.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Ensure personnel are prepared fro deployment, as required.
3. Establish load plans for equipment and personnel.
4. Arrange for special material handling and transportation equipment.
5. Select site location after considering: space requirements, terrain features, access routes, proximity to supported units and logistic support.
6. Determine power requirements, as required.
7. Install the maintenance facility.
8. Verify environmental conditions inside shelter.
9. Determine logistics/support procedures.
10. Maintain logistics/support procedures.
11. Maintain security.

REFERENCES:
1. 29 CFR1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
2. Applicable technical manuals/publications
3. MCO 4733.1B Marine Corps Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP) (Jun 99)
4. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
5. MCWP 3-40.3 Communications and Information Systems
6. TM 10510-14/1 Electronic Test Equipment Listing
7. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety (Aug 91)
8. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

2800 GROUND T&R MANUAL

CHAPTER 16

MOS 2887 INDIVIDUAL EVENTS

2800 GROUND T&R MANUAL

CHAPTER 16

MOS 2887 INDIVIDUAL EVENTS

16000. PURPOSE. This chapter contains individual training events for MOS 2887, Artillery Electronics Technician.

16001. INDIVIDUAL SKILLS

1. Core skills are basic individual skills that make a Marine and qualify them for an MOS. They are the 1000 level skills introduced in the entry level training in the formal schools and refined in operational units.

2. Core Plus Skills are advanced individual skills that are environment, mission, rank or billet specific. They are the 2000 level skills introduced in the entry level managed on the job training in operational units and advanced formal schools training.

16002. EVENT CODING. Events in the T&R Manual are depicted with an 11 or 12 digit alphanumeric system, i.e. XXXX-XXXX-XXXX, utilizing the following methodology:

a. Field one - Each event starts with 28XX. 2800 indicates that the event is a core capability for all Marines within the occupational field. 2844 indicates the event is for 2844, Ground Communications Organizational Repairer, etc.

b. Field two - This field is alpha characters indicating a functional area. The functional areas for this chapter are listed below:

Functional Area	Field Name	Example
Maintenance Planning	PLAN	2844-PLAN-XXXX
Maintenance Administration	ADMN	2844-ADMN-XXXX
Maintenance Actions	ACT	2844-ACT-XXXX
Maintenance Operations	OPS	2844-OPS-XXXX
Maintenance Training	TRNG	2844-TRNG-XXXX

c. Field three - All individual events within T&R Manuals are either 1000-level events that are taught at MOS-producing formal schools or 2000-level events that are taught at advanced-level schools or are MOJT. The first digit indicates whether it is a core (1) or core plus (2) event.

The second digit indicates the associated field and the last two digits indicate the task number. 2303 indicates that it is a core plus task and it is the third task within the Maintenance Actions functional area for that MOS. This chapter contains both level events.

MOS	Field Name	Associated Field Number	Core/ Core Plus	Task	Example
2800	PLAN	101-199	2	1	2800-PLAN-2101
2871	ADMN	201-299	1	4	2871-ADMN-1201
2846	ACT	301-399	2	3	2846-ACT-2303
2821	OPS	401-499	1	2	2821-OPS-1401
2805	TRNG	501-599	2	1	2805-TRNG-2501

16003. INDEX OF 1000-LEVEL EVENTS

16004. 1000-LEVEL EVENTS

2887-ACT-1301: Perform corrective maintenance on artillery ground-based sensors to the piece-part component level

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

MOS PERFORMING: 2887

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, an assigned maintenance area, 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. Calculate circuit parameters.
5. Ensure proper handling of static sensitive components/printed circuit cards.
6. Measure basic circuit performance.
7. Perform alignments, as required.
8. Trace signal paths.
9. Trace current/voltage paths.
10. Isolate faulty component.
11. Requisition repair parts, as required.
12. Remove/repair faulty components, as required.
13. Apply authorized modifications and technical instructions.
14. Perform preventative maintenance checks and services.
15. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. Applicable technical manuals/publications
2. FEDLOG Federal Logistic Data
3. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
4. Maintenance Float Catalog
5. SL 1-2/3 Index of Authorized Publications in Stock
6. SL-4 Repair, Maintenance, and Management Lists
7. TM 9999-15/1 ESD Awareness Electro-Static Discharge
8. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Oscilloscope
2. Firefinder radar set
3. Power supply

4. Signal generator
5. Spectrum analyzer
6. Direct maintenance tool kit
7. General maintenance tool kit and adaptors
8. Power meter
9. Digital multimeter
10. Test adapter kit
11. Comm-Elect common tool kit
12. ATE
13. Lightweight counter mortar radar
14. Ground counter fire sensor

MATERIAL: Distance Learning Products Available:
1. MCI 2820, Electronics Mathematics for Marines
2. MCI 286G, Fundamentals of Digital Logic
3. MCI 287A, Introduction to Test Measurement and Diagnostic Equipment
4. MCI 1142B, Solid State Devices

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.

2887-ACT-1302: Perform corrective maintenance on the Meteorological Measuring Station to the piece-part component level

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

MOS PERFORMING: 2887

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, and assigned maintenance area, 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. Calculate circuit parameters.
5. Ensure proper handling of static sensitive components/printed circuit cards.
6. Measure basic circuit performance.
7. Perform alignments, as required.
8. Trace signal paths.
9. Trace current/voltage paths.

10. Isolate faulty component.
11. Requisition repair parts, as required.
12. Remove/replace faulty component, as required.
13. Apply authorized modifications and technical instructions.
14. Perform preventative maintenance checks and services.
15. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. Applicable technical manuals/publications
2. FEDLOG Federal Logistic Data
3. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
4. SL 1-2/3 Index of Authorized Publications in Stock
5. SL-4 Repair, Maintenance, and Management Lists
6. TM 9999-15/1 ESD Awareness Electro-Static Discharge
7. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Power Supply
2. Oscilloscope
3. AN/TMQ-41A MMS
4. 28V power supply
5. Signal generator
6. Comm-Elect common tool kit
7. Spectrum analyzer
8. Direct maintenance tool kit
9. General maintenance tool kit and adaptors
10. Power meter
11. Digital multimeter
12. Test adapter kit
13. ATE

MATERIAL: Distance Learning Products Available:
1. MCI 2820, Electronics Mathematics for Marines
2. MCI 286G, Fundamentals of Digital Logic
3. MCI 287A, Introduction to Test Measurement and Diagnostic Equipment
4. MCI 1142B, Solid State Devices

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.

2887-ACT-1303: Perform corrective maintenance on artillery fire control electronic systems to the piece-part component level

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

MOS PERFORMING: 2887

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, an assigned maintenance area, faulty equipment, materials 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. Calculate circuit parameters.
5. Ensure proper handling of static sensitive components/printed circuit cards.
6. Measure basic circuit performance.
7. Perform alignments, as required.
8. Trace signal paths.
9. Trace current/voltage paths.
10. Isolate faulty component.
11. Remove/repair faulty component, as required.
12. Requisition repair parts, as required.
13. Apply authorized modifications and technical instructions.
14. Perform preventative maintenance checks and services.
15. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. Applicable technical manuals/publications
2. FEDLOG Federal Logistic Data
3. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
4. SL 1-2/3 Index of Authorized Publications in Stock
5. SL-4 Repair, Maintenance, and Management Lists
6. TM 9999-15/1 ESD Awareness Electro-Static Discharge
7. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Digital fire control system
2. Oscilloscope
3. M-94 MVS
4. 28V power supply
5. Signal generator
6. Function generator
7. Digital multimeter
8. OD-144 Gun Direction Unit
9. Spectrum analyzer
10. Direct maintenance tool kit
11. General maintenance tool kit and adaptors
12. Power meter
13. Test adapter kit
14. Comm-Elect common tool kit

15. Automated Test Equipment
16. DFCS Test Set

MATERIAL: Distance Learning Products Available:
1. MCI 2820, Electronics Mathematics for Marines
2. MCI 286G, Fundamentals of Digital Logic
3. MCI 287A, Introduction to Test Measurement and Diagnostic Equipment
4. MCI 1142B, Solid State Devices

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.

2887-OPS-1401: Provide technical assistance during the installation of artillery electronic equipment

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

MOS PERFORMING: 2887

GRADES: PVT, PFC, LCPL, CPL, SGT

INITIAL TRAINING SETTING: FORMAL

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

STANDARD: To ensure equipment is properly installed and operates in accordance with the appropriate system technical manual.

PERFORMANCE STEPS:
1. Verify equipment is properly grounded.
2. Verify power source.
3. Verify antenna installation, as required.
4. Verify remote capabilities, as required.
5. Verify software applications.
6. Verify equipment operation.
7. Perform electromagnetic interference troubleshooting, as required.
8. Provide guidance to correct discrepancies as noted.

REFERENCES:
1. Applicable technical manuals/publications
2. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety (Aug 91)
3. TM 9999-15/1 ESD Awareness Electro-Static Discharge

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. AN/TMQ-41A MMS
2. Ground tester

3. AN/TPQ-46A Firefinder Radar Set
4. M-94 MVS
5. OD-144 Gun Directional Unit

MATERIAL: Distance Learning Products Available:
1. MCI 2820, Electronics Mathematics for Marines
2. MCI 286, Fundamentals of Digital Logic
3. MCI 287, Introduction to Test Equipment
4. MCI 1142, Solid State Devices

16005. INDEX OF 2000-LEVEL EVENTS

16006. 2000-LEVEL EVENTS

2887-ACT-2301: Manage artillery electronics maintenance

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

MOS PERFORMING: 2887

GRADES: SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

CONDITION: With the aid of references, equipment and personnel

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

PERFORMANCE STEPS:
1. Interpret and disseminate detailed schematic diagrams.
2. Analyze failure data to ensure appropriate parts support.
3. Develop modifications instructions.
4. Adjust alignment procedures to account for environmental changes.
5. Evaluate contractor logistics support requirements.
6. Inspect software upgrades.

REFERENCES:
1. 29 CFR1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
2. Applicable technical manuals/publications
3. FEDLOG Federal Logistic Data
4. MCO P4790.2C MIMMS Field Procedures Manual (JUL 94)
5. SL 1-2/3 Index of Authorized Publications in Stock
6. SL-4 Repair, Maintenance, and Management Lists
7. TM 9999-15/1 ESD Awareness Electro-Static Discharge
8. UM 4790-5 MIMMS AIS, Field Maintenance Procedures

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. AN/TPQ-46_ Firefinder Radar Set
2. Ground counter fire sensor
3. AN/TMQ-41A MMS
4. M-94 MVS
5. Digital fire control system
6. Lightweight counter mortar radar

MATERIAL: Distance Learning Products Available:
1. MCI 2820, Electronics Mathematics for Marines
2. MCI 286G, Fundamentals of Digital Logic
3. MCI 287A, Introduction to Test Measurement and Diagnostic Equipment
4. MCI 1142B, Solid State Devices

2887-ACT-2302: Determine low density maintenance support requirements for artillery electronic equipment

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

MOS PERFORMING: 2887

GRADES: SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

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

STANDARD: To ensure specific pre-determined quantities of artillery electronic equipment are stocked in accordance with MCO P4400.150_, page A-7.

PERFORMANCE STEPS:
1. Evaluate the unit's support requirements.
2. Define supply support requirements.
3. Define float support requirements.
4. Submit support requirements.

REFERENCES:
1. Applicable technical manuals/publications
2. CAL and LUBF Consolidated Account Listing and Loaded Unit Balance File
3. Operational Order Operational Order
4. Higher Headquarters Directives

2887-OPS-2401: Provide advanced technical assistance during the installation of artillery electronic equipment

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

MOS PERFORMING: 2887

GRADES: SGT, SSGT, GYSGT

INITIAL TRAINING SETTING: MOJT

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

STANDARD: To ensure equipment is properly installed and operates in accordance with the appropriate system technical manual.

PERFORMANCE STEPS:
1. Provide technical assistance during system embarkation.
2. Provide technical expertise in site selection.
3. Provide technical assistance during system emplacement.
4. Report updates regarding system readiness.

REFERENCES:
1. Applicable technical manuals/publications

2. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety (Aug 91)

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:

1. AN/TPQ-46_ Firefinder Radar Set
2. Ground counter fire sensor
3. AN/TMQ-41A MMS
4. M-94 MVS
5. Digital fire control system

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CHAPTER 17

MOS 2891 INDIVIDUAL EVENTS

2800 GROUND T&R MANUAL

CHAPTER 17

MOS 2891 INDIVIDUAL EVENTS

17000. PURPOSE. This chapter contains individual training events for MOS 2891, Electronics Maintenance Chief.

17001. INDIVIDUAL SKILLS

1. Core skills are basic individual skills that make a Marine and qualify them for an MOS. They are the 1000 level skills introduced in the entry level training in the formal schools and refined in operational units.

2. Core Plus Skills are advanced individual skills that are environment, mission, rank or billet specific. They are the 2000 level skills introduced in the entry level managed on the job training in operational units and advanced formal schools training.

17002. EVENT CODING. Events in the T&R Manual are depicted with an 11 or 12 digit alphanumeric system, i.e. XXXX-XXXX-XXXX, utilizing the following methodology:

a. Field one - Each event starts with 28XX. 2800 indicates that the event is a core capability for all Marines within the occupational field. 2844 indicates the event is for 2844, Ground Communications Organizational Repairer, etc.

b. Field two - This field is alpha characters indicating a functional area. The functional areas for this chapter are listed below:

Functional Area	Field Name	Example
Maintenance Planning	PLAN	2844-PLAN-XXXX
Maintenance Administration	ADMN	2844-ADMN-XXXX
Maintenance Actions	ACT	2844-ACT-XXXX
Maintenance Operations	OPS	2844-OPS-XXXX
Maintenance Training	TRNG	2844-TRNG-XXXX

c. Field three - All individual events within T&R Manuals are either 1000-level events that are taught at MOS-producing formal schools or 2000-level events that are taught at advanced-level schools or are MOJT. The first digit indicates whether it is a core (1) or core plus (2) event.

The second digit indicates the associated field and the last two digits indicate the task number. 2303 indicates that it is a core plus task and it is the third task within the Maintenance Actions functional area for that MOS. This chapter contains both level events.

MOS	Field Name	Associated Field Number	Core/ Core Plus	Task	Example
2800	PLAN	101-199	2	1	2800-PLAN-2101
2871	ADMN	201-299	1	4	2871-ADMN-1201
2846	ACT	301-399	2	3	2846-ACT-2303
2821	OPS	401-499	1	2	2821-OPS-1401
2805	TRNG	501-599	2	1	2805-TRNG-2501

17003. INDEX OF 2000-LEVEL EVENTS

17004. 2000-LEVEL EVENTS

2891-PLAN-2101: Draft ground electronics maintenance SOP

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

MOS PERFORMING: 2891

GRADES: MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided with Commander's guidance, a mission and a table of organization/equipment.

STANDARD: To ensure subordinate units can perform their maintenance mission in accordance with MCO P4790.2, page 1-20 and MCO P4790.2_, Appendix A.

PERFORMANCE STEPS:
1. Analyze mission, directives, policy, guidance, and references.
2. Identify policies not adequately covered by existing references.
3. Identify maintenance procedures requiring amplification.
4. Identify maintenance procedures requiring deviation from existing references.
5. Identify Commander's additional policy guidance.
6. Detail local policy required to be addressed within local SOP.
7. Staff SOP within unit for review.
8. Submit for approval.

REFERENCES:
1. Unit's Standing Operating Procedures (SOP)
2. Unit TO/E Table of Organization/Equipment
3. MCWP 4-24 Commander's Guide to Maintenance
4. MCWP 4-24 Maintenance Operations
5. MCO P4790.1 MIMMS Introduction Manual
6. MCO P4790.2 MIMMS Field Procedures Manual (Jul 94)
7. MCBul 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
8. MCO 3000.11 Marine Corps Automated Readiness Evaluation System
9. MCO 4105.2 Marine Corps Warranty Program
10. MCO 4200.33 Contractor Logistics Support (CLS) for Ground Equipment, Ground Weapons Systems, Munitions, and Information Systems
11. MCO 4400.16 Uniform Material Movement and Issue Priority System
12. MCO 4855.10 Product Quality Deficiency Reporting (PQDR)
13. MCO P4400.82F Regulated/Controlled Items Management Manual
14. MCO P4400.150 Consumer Level Supply Policy Manual
15. MCO P4400.151 Intermediate-Level Supply Management Policy Manual
16. MCO P5215.17 Marine Corps Technical Publications System
17. TM 4700-15/1 Ground Equipment Record Procedures
18. UM 4400-124 FMF SASSY Using Unit Procedures
19. UM 4400-60 Material Returns Program User's Manual
20. UM 4400-123 FMF SASSY Management Unit Procedures
21. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
22. UM PLMS Publication Library Management System

23. ICE2 Statement of Requirements Document
24. Contracting Officer Representative (COR) ICE2 Handbook

2891-ACT-2301: Supervise ground electronics maintenance

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

MOS PERFORMING: 2891

GRADES: MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: Provided maintenance equipment and personnel.

STANDARD: In accordance with MCO P4790.2_, Chapter 2 and MCO P4790.2_, Appendix H.

PERFORMANCE STEPS:
1. Evaluate available personnel.
2. Evaluate available equipment.
3. Establish shop organization.
4. Implement shop procedures.
5. Manage maintenance resources.
6. Determine training requirements.
7. Establish training priorities.
8. Assign maintenance actions.
9. Inspect maintenance actions.
10. Conduct maintenance readiness inspections.
11. Administer contracted logistics support (CLS) and warranty programs.
12. Assist with budget determination and allocation.
13. Ensure E3 program compliance.

REFERENCES:
1. MCO 1200.17 Military Occupational Specialties Manual
2. 29 CFR 1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
3. Applicable technical manuals/publications
4. MCWP 3-40.3 Communications and Information Systems
5. MCWP 5-1 Marine Corps Planning Process
6. MPS Load Plan
7. Operational Order
8. UNIT SOP Unit's Standing Operating Procedures
9. Unit TO/E Table of Organization/Equipment
10. MCWP 4-24 Maintenance Operations
11. MCRP 4-11.3 Unit Embarkation Handbook
12. UM PLMS Publication Library Management System
13. MCO P5215.17 Marine Corps Technical Publications System
14. MCBul 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
15. MCO 3000.11 Marine Corps Automated Readiness Evaluation System
16. MCO 4400.16 Uniform Material Movement and Issue Priority System
17. MCO P4400.150 Consumer Level Supply Policy Manual

18. MCO P4400.151 Intermediate-Level Supply Management Policy Manual
19. MCO P4400.82F Regulated/Controlled Items Management Manual
20. MCO P4790.1 MIMMS Introduction Manual
21. MCO P4790.2 MIMMS Field Procedures Manual
22. TM 4700-15/1 Ground Equipment Record Procedures
23. DLA Customer Assistance Handbook
24. UM 4400-124 FMF SASSY Using Unit Procedures
25. UM 4400-60 Material Returns Program User's Manual
26. UM 4400-123 FMF SASSY Management Unit Procedures
27. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
28. MCO 4855.10 Product Quality Deficiency Reporting (PQDR)
29. MCO 4105.2 Marine Corps Warranty Program
30. ICE2 Statement of Requirements Document
31. Contracting Officer Representative (COR) ICE2 Handbook
32. DoDD 4151.18 Maintenance of Military Material
33. MCO 4733.1 Marine Corps Test, Measurement, Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
34. TM 10510-OD/1 General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Electronic Support Items and Tool Kits)
35. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
36. TI 4733-15/1 Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance
37. TI 4733-15/6 Test, Measurement and Diagnostic Equipment Calibration and Maintenance Support
38. TI 4733-15/7 Procedural Publication Index for Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
39. TI 4733-15/9 Radiac Instrument Calibration Requirements
40. TI 4733-15/10 Special Calibration of Torque Wrenches
41. TI 4733-15/11 Infantry Weapons Gauge Calibrations Program
42. 4733-15/12 Calibration Requirements for Thermistor Mounts/Power Sensors Marine Corps Calibration Program
43. TI 4733-15/21 Survey Instrument Calibration
44. TI 4733-35/5 Calibration Equipment Recommendations for the Marine Corps Calibration Program
45. TI 4733-35/8 Marine Corps Transfer Standards Program
46. TI 4733-35/23 Naval and Marine Corps Calibration Laboratory Audit/Certification Manual
47. TI 5820-25/22 Electromagnetic Environmental Effects Procedures for Installation of Communication Equipment on United States Marine Corps Platforms
48. MCO 2410.2 Electromagnetic Environmental Effects Control Program
49. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety
50. TM 9999-15/1 Electrostatic Discharge Awareness
51. TM 9999-15/2 Electrostatic Discharge Awareness
52. SI-4400-15/5 Packaging/Handling/Storage and Transportation of ESD Sensitive Items
53. TI-4400-15/1A Packaging, Handling, and Transportation of ESD Items
54. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair
55. TM 2000.15/1 Brief Description of US Marine Corps Communication-Electronic Equipment
56. TM 2000.OD/2 Principle Technical Characteristics of U.S. Marine Corps Communication-Electronics Equipment

57. TM 4795-12/1 Corrosion Prevention and Control
58. TM 4795-34/2 Corrosion Prevention and Control
59. TM-5410-14/1 Intermediate Maintenance Instructions Electronics Maintenance Complex
60. TM 5411-14/1 Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) Operation and Maintenance Instructions
61. TM-5411-14/P&2 EMI Shelter (Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) 10-Foot Rigid General Purpose Shelter Operation and Maintenance (Instructions with Repair Parts List)
62. CNSS 4000 Communication Security (COMSEC) Maintenance and Maintenance Training
63. DODI 8523.01 Communications Security
64. DODI 8570.01-M Information Assurance Workforce Improvement Program
65. CMS-5 Communication Security Material System (CMS) Cryptographic Equipment Information/Guidance manual
66. Electronic Key Management System (EKMS 1)

2891-OPS-2401: Execute the plan for deployed maintenance

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

MOS PERFORMING: 2891

GRADES: MSGT, MGYSGT

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, Commander's guidance, equipment, a mission and personnel.

STANDARD: To implement task organized maintenance in support of MAGTF Operations in accordance with MCO P4790.2_, Appendix E.

PERFORMANCE STEPS:
1. Review warning order.
2. Review Commander's guidance.
3. Review supported equipment density list.
4. Identify support requirements.
5. Establish deployed contracted logistic support (CLS) procedures.
6. Validate class IX requirements.
7. Supervise equipment embarkation.
8. Determine shop layout.
9. Organize maintenance area.
10. Establish contact team maintenance.
11. Establish security/defense.
12. Draft deployed maintenance plans.

REFERENCES:
1. MCO 1200.17 Military Occupational Specialties Manual
2. 29 CFR 1910.1200 Title 29 Code of Federal Regulations, Hazard Communication
3. Applicable technical manuals/publications
4. MCWP 3-40.3 Communications and Information Systems

5. MCWP 5-1 Marine Corps Planning Process
6. MPS Load Plan
7. Operational Order
8. UNIT SOP Unit's Standing Operating Procedures
9. Unit TO/E Table of Organization/Equipment
10. MCWP 4-24 Maintenance Operations
11. MCRP 4-11.3 Unit Embarkation Handbook
12. UM PLMS Publication Library Management System
13. MCO P5215.17 Marine Corps Technical Publications System
14. MCBul 3000 Marine Corps Automated Readiness Evaluation System (MARES) Equipment
15. MCO 3000.11 Marine Corps Automated Readiness Evaluation System
16. MCO 4400.16 Uniform Material Movement and Issue Priority System
17. MCO P4400.150 Consumer Level Supply Policy Manual
18. MCO P4400.151 Intermediate-Level Supply Management Policy Manual
19. MCO P4400.82F Regulated/Controlled Items Management Manual
20. MCO P4790.1 MIMMS Introduction Manual
21. MCO P4790.2 MIMMS Field Procedures Manual
22. TM 4700-15/1 Ground Equipment Record Procedures
23. DLA Customer Assistance Handbook
24. UM 4400-124 FMF SASSY Using Unit Procedures
25. UM 4400-60 Material Returns Program User's Manual
26. UM 4400-123 FMF SASSY Management Unit Procedures
27. UM 4790-5 MIMMS AIS, Field Maintenance Procedures
28. MCO 4855.10 Product Quality Deficiency Reporting (PQDR)
29. MCO 4105.2 Marine Corps Warranty Program
30. ICE2 Statement of Requirements Document
31. Contracting Officer Representative (COR) ICE2 Handbook
32. DoDD 4151.18 Maintenance of Military Material
33. MCO 4733.1 Marine Corps Test, Measurement, Diagnostic Equipment (TMDE) Calibration and Maintenance Program (CAMP)
34. TM 10510-OD/1 General Purpose Test Measurement and Diagnostic Equipment (TMDE) Listing (Including Ancillary Electronic Support Items and Tool Kits)
35. TM 10209-10/1 Use and Care of Hand Tools and Measuring Tools
36. TI 4733-15/1 Calibration Requirements Marine Corps Test, Measurement and Diagnostic Equipment Calibration and Maintenance
37. TI 4733-15/6 Test, Measurement and Diagnostic Equipment Calibration and Maintenance Support
38. TI 4733-15/7 Procedural Publication Index for Test, Measurement and Diagnostic Equipment Calibration and Maintenance Program
39. TI 4733-15/9 Radiac Instrument Calibration Requirements
40. TI 4733-15/10 Special Calibration of Torque Wrenches
41. TI 4733-15/11 Infantry Weapons Gauge Calibrations Program
42. 4733-15/12 Calibration Requirements for Thermistor Mounts/Power Sensors Marine Corps Calibration Program
43. TI 4733-15/21 Survey Instrument Calibration
44. TI 4733-35/5 Calibration Equipment Recommendations for the Marine Corps Calibration Program
45. TI 4733-35/8 Marine Corps Transfer Standards Program
46. TI 4733-35/23 Naval and Marine Corps Calibration Laboratory Audit/Certification Manual
47. TI 5820-25/22 Electromagnetic Environmental Effects Procedures for Installation of Communication Equipment on United States Marine Corps Platforms

48. MCO 2410.2 Electromagnetic Environmental Effects Control Program
49. TM 9406-15 Grounding Procedures for Electromagnetic Interference Control and Safety
50. TM 9999-15/1 Electrostatic Discharge Awareness
51. TM 9999-15/2 Electrostatic Discharge Awareness
52. SI-4400-15/5 Packaging/Handling/Storage and Transportation of ESD Sensitive Items
53. TI-4400-15/1A Packaging, Handling, and Transportation of ESD Items
54. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair
55. TM 2000.15/1 Brief Description of US Marine Corps Communication-Electronic Equipment
56. TM 2000.OD/2 Principle Technical Characteristics of U.S. Marine Corps Communication-Electronics Equipment
57. TM 4795-12/1 Corrosion Prevention and Control
58. TM 4795-34/2 Corrosion Prevention and Control
59. TM-5410-14/1 Intermediate Maintenance Instructions Electronics Maintenance Complex
60. TM 5411-14/1 Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) Operation and Maintenance Instructions
61. TM-5411-14/P&2 EMI Shelter (Marine Corps Expeditionary Shelter System (MCESS) (Small Shelter Family) 10-Foot Rigid General Purpose Shelter Operation and Maintenance (Instructions with Repair Parts List)
62. CNSS 4000 Communication Security (COMSEC) Maintenance and Maintenance Training
63. DODI 8523.01 Communications Security
64. DODI 8570.01-M Information Assurance Workforce Improvement Program
65. CMS-5 Communication Security Material System (CMS) Cryptographic Equipment Information/Guidance manual
66. Electronic Key Management System (EKMS 1)

SUPPORT REQUIREMENTS:

MATERIAL: Distance Learning Products Available:

1. MCI 0414B, Ground Maintenance Management Procedures for Supervisors

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CHAPTER 18

MOS 8641 INDIVIDUAL EVENTS

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CHAPTER 18

MOS 8641 INDIVIDUAL EVENTS

18000. PURPOSE. This chapter contains individual training events for MOS 8641, Microminiature Repairer.

18001. INDIVIDUAL SKILLS

1. Core skills are basic individual skills that make a Marine and qualify them for an MOS. They are the 1000 level skills introduced in the entry level training in the formal schools and refined in operational units.

2. Core Plus Skills are advanced individual skills that are environment, mission, rank or billet specific. They are the 2000 level skills introduced in the entry level managed on the job training in operational units and advanced formal schools training.

18002. EVENT CODING. Events in the T&R Manual are depicted with an 11 or 12 digit alphanumeric system, i.e. XXXX-XXXX-XXXX, utilizing the following methodology:

a. Field one - Each event starts with 28XX. 2800 indicates that the event is a core capability for all Marines within the occupational field. 2844 indicates the event is for 2844, Ground Communications Organizational Repairer, etc.

b. Field two - This field is alpha characters indicating a functional area. The functional areas for this chapter are listed below:

Functional Area	Field Name	Example
Maintenance Planning	PLAN	2844-PLAN-XXXX
Maintenance Administration	ADMN	2844-ADMN-XXXX
Maintenance Actions	ACT	2844-ACT-XXXX
Maintenance Operations	OPS	2844-OPS-XXXX
Maintenance Training	TRNG	2844-TRNG-XXXX

c. Field three - All individual events within T&R Manuals are either 1000-level events that are taught at MOS-producing formal schools or 2000-level events that are taught at advanced-level schools or are MOJT. The first digit indicates whether it is a core (1) or core plus (2) event.

The second digit indicates the associated field and the last two digits indicate the task number. 2303 indicates that it is a core plus task and it is the third task within the Maintenance Actions functional area for that MOS. This chapter contains both level events.

MOS	Field Name	Associated Field Number	Core/ Core Plus	Task	Example
2800	PLAN	101-199	2	1	2800-PLAN-2101
2871	ADMN	201-299	1	4	2871-ADMN-1201
2846	ACT	301-399	2	3	2846-ACT-2303
2821	OPS	401-499	1	2	2821-OPS-1401
2805	TRNG	501-599	2	1	2805-TRNG-2501

18003. INDEX OF 2000-LEVEL EVENTS

18004. 2000-LEVEL EVENTS

8641-ACT-2301: Repair circuit card assembly laminates

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

DESCRIPTION: This is a necessary MOS only, assigned to eligible Marines who have completed the Microminiature/Automated Test Equipment Technician Course at MCCES, 29 Palms, CA.

MOS PERFORMING: 8641

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

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, an assigned maintenance area, damaged circuit card assemblies and a circuit card repair station.

STANDARD: To minimum workmanship standards of acceptance as described in TM 5895-45/1_, WP 011, page 25, paragraph 11.4.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Ensure proper handling of static sensitive components/printed circuit cards.
3. Identify types of laminate damage.
4. Identify the repair methods.
5. Repair the damaged laminate.
6. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. MCO 2410.2_ Electromagnetic Environmental Control Program
2. MSDS Material Safety Data Sheets
3. TI 4400-15/5 Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
4. TI 5895-45/1 AN/USM and AN/USM-674 Test Station Gold Disk and Silver Disk Program
5. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair
6. TM 9999-15/1 ESD Awareness Electro-Static Discharge
7. TM 9999-15/2 ESD Electro-static Discharge Management

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Automated test equipment
2. MK-2663/U electronic equipment maintenance kit

8641-ACT-2302: Repair circuit card assembly conductors

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

DESCRIPTION: This is a necessary MOS only, assigned to eligible Marines who have completed the Microminiature/Automated Test Equipment Technician Course at MCCES, 29 Palms, CA.

MOS PERFORMING: 8641

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

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, an assigned maintenance area, damaged circuit card assemblies and a circuit card repair station.

STANDARD: To minimum workmanship standards of acceptance as described in TM 5895-45/1_, WP 012, page 35, paragraph 12.4.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Ensure the proper handling of static sensitive components/printed circuit cards.
3. Identify types of conductor damage.
4. Identify the repair methods.
5. Repair the damaged conductor(s).
6. Perform quality assurance checks.

REFERENCES:
1. MCO 2410.2_ Electromagnetic Environmental Control Program
2. MSDS Material Safety Data Sheets
3. TI 4400-15/5 Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
4. TI 5895-45/1 AN/USM and AN/USM-674 Test Station Gold Disk and Silver Disk Program
5. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair
6. TM 9999-15/1 ESD Awareness Electro-Static Discharge
7. TM 9999-15/2 ESD Electro-static Discharge Management

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Automated test equipment
2. MK-2663/U electronic equipment maintenance kit

8641-ACT-2303: Repair internal conductors of multilayer circuit card assemblies

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

DESCRIPTION: This is a necessary MOS only, assigned to eligible Marines who have completed the Microminiature/Automated Test Equipment Technician Course at MCCES, 29 Palms, CA.

MOS PERFORMING: 8641

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

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, an assigned maintenance area, a circuit card repair station and damaged multilayer circuit card assemblies.

STANDARD: To minimum workmanship standards of acceptance as described in TM 5895-45/1_, WP 015, page 14, paragraph 15.4 and TI 2005-35/7.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Ensure proper handling of static sensitive components/printed circuit cards.
3. Identify the types of internal conductor damage.
4. Identify the repair methods.
5. Repair the damaged internal conductor(s).
6. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. MCO 2410.2_ Electromagnetic Environmental Control Program
2. MSDS Material Safety Data Sheets
3. TI 2005-35/7 Repair open subsurface circuit runs in multilayer circuit card assemblies utilizing jumper wires
4. TI 4400-15/5 Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
5. TI 5895-45/1 AN/USM and AN/USM-674 Test Station Gold Disk and Silver Disk Program
6. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair
7. TM 9999-15/1 ESD Awareness Electro-Static Discharge
8. TM 9999-15/2 ESD Electro-static Discharge Management

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Automated test equipment
2. MK-2663/U electronic equipment maintenance kit

8641-ACT-2304: Repair stranded wire

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

DESCRIPTION: This is a necessary MOS only, assigned to eligible Marines who have completed the Microminiature/Automated Test Equipment Technician Course at MCCES, 29 Palms, CA.

MOS PERFORMING: 8641

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

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, an assigned maintenance area, a circuit card repair station and damaged stranded wire.

STANDARD: To minimum workmanship standards of acceptance as described in TM 5895-45/1_, WP 010, page 11, paragraph 10.4.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Ensure proper handling of static sensitive components/printed circuit cards.
3. Identify stranded wire damage.
4. Identify the repair method.
5. Repair the damaged stranded wire.
6. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. MSDS Material Safety Data Sheets
2. TI 5895-45/1 AN/USM and AN/USM-674 Test Station Gold Disk and Silver Disk Program
3. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Automated test equipment
2. MK-2663/U electronic equipment maintenance kit

8641-ACT-2305: Repair flexible flat conductors

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

DESCRIPTION: This is a necessary MOS only, assigned to eligible Marines who have completed the Microminiature/Automated Test Equipment Technician Course at MCCES, 29 Palms, CA.

MOS PERFORMING: 8641

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

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, an assigned maintenance area, a circuit card repair station and damaged flexible flat conductors.

STANDARD: To minimum workmanship standards of acceptance as described in TM 5895-45/1_, WP 013, page 12, paragraph 13.4.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Ensure proper handling of static sensitive components/printed circuit cards.
3. Identify types of flexible flat conductor damage.
4. Repair the damaged flexible flat conductor.
5. Perform quality assurance checks.

REFERENCES:
1. MCMTRTS USER'S GUIDE USMC MTR Tracking System Installation and User's Guide
2. MCO P5090.2A Environmental Compliance and Protection Manual (Jul 98)
3. MM/ATE SHO MM/ATE Student Handout
4. MSDS Material Safety Data Sheets
5. TI 2005-35/7 Repair open subsurface circuit runs in multilayer circuit card assemblies utilizing jumper wires
6. TI 5895-45/1 AN/USM and AN/USM-674 Test Station Gold Disk and Silver Disk Program
7. TM 09458A-14/1A PRC-2000-2M System Electronic Rework Power Unit
8. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Automated test equipment
2. MK-2663/U electronic equipment maintenance kit

8641-ACT-2306: Remove components from circuit card assemblies

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

DESCRIPTION: This is a necessary MOS only, assigned to eligible Marines who have completed the Microminiature/Automated Test Equipment Technician Course at MCCES, 29 Palms, CA.

MOS PERFORMING: 8641

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

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, a circuit card repair station and damaged circuit card assemblies with faulty components.

STANDARD: To minimum workmanship standards of acceptance as described in TM 5895-45/1_, WP 005, page 18, paragraph 5.13; TM 5895-45/1_, WP 006, page 24, paragraph 6.4; and TM 5895-45/1_, WP 007, page 29, paragraph 7.4.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Ensure proper handling of static sensitive components/printed circuit cards.
3. Identify faulty component(s) on a circuit card assembly.
4. Remove conformal coating, as required.
5. Remove component(s).
6. Perform quality assurance checks.

REFERENCES:
1. MCO 2410.2_ Electromagnetic Environmental Control Program
2. MSDS Material Safety Data Sheets
3. TI 4400-15/5 Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
4. TI 5895-45/1 AN/USM and AN/USM-674 Test Station Gold Disk and Silver Disk Program
5. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair
6. TM 9999-15/1 ESD Awareness Electro-Static Discharge
7. TM 9999-15/2 ESD Electro-static Discharge Management

SUPPORT REQUIREMENTS:

EQUIPMENT: Supporting Equipment:
1. Automated test equipment
2. MK-2663/U electronic equipment maintenance kit

8641-ACT-2307: Install components on circuit card assemblies

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

DESCRIPTION: This is a necessary MOS only, assigned to eligible Marines who have completed the Microminiature/Automated Test Equipment Technician Course at MCCES, 29 Palms, CA.

MOS PERFORMING: 8641

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

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, an assigned maintenance area, circuit card assemblies with faulty components and a circuit card repair station.

STANDARD: To minimum workmanship standards of acceptance as described in TM 5895-45/1_, WP 005, page 18, paragraph 5.13; TM 5895-45/1_, WP 006, page 24, paragraph 6.4; and TM 5895-45/1_, WP 007, page 29, paragraph 7.4.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Ensure proper handling of static sensitive components/printed circuit cards.
3. Install components.

4. Replace conformal coating, as required.
5. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. MCO 2410.2_ Electromagnetic Environmental Control Program
2. MSDS Material Safety Data Sheets
3. TI 4400-15/5 Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
4. TI 5895-45/1 AN/USM and AN/USM-674 Test Station Gold Disk and Silver Disk Program
5. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair
6. TM 9999-15/1 ESD Awareness Electro-Static Discharge
7. TM 9999-15/2 ESD Electro-static Discharge Management

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Automated test equipment
2. MK-2663/U electronic equipment maintenance kit

8641-ACT-2308: Remove surface mounted technology devices

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

DESCRIPTION: This is a necessary MOS only, assigned to eligible Marines who have completed the Microminiature/Automated Test Equipment Technician Course at MCCES, 29 Palms, CA.

MOS PERFORMING: 8641

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

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, an assigned maintenance area, circuit card assemblies with surface mounted devices and a circuit card repair station.

STANDARD: To minimum workmanship standards of acceptance as described in TM 5895-45/1_, WP 005, page 18, paragraph 5.13; TM 5895-45/1_, WP 006, page 24, paragraph 6.4; TM 5895-45/1_, WP 007, page 29, paragraph 7.4; and TM 5895-45/1_, WP 018, page 50, paragraph 18.2.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Ensure proper handling of static sensitive components/printed circuit cards.
3. Identify the surface mounted component(s) to be removed.
4. Remove the surface mounted component(s).
5. Perform quality assurance checks.

REFERENCES:
1. MCO 2410.2_ Electromagnetic Environmental Control Program
2. MSDS Material Safety Data Sheets
3. TI 4400-15/5 Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
4. TI 5895-45/1 AN/USM and AN/USM-674 Test Station Gold Disk and Silver Disk Program
5. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair
6. TM 9999-15/1 ESD Awareness Electro-Static Discharge
7. TM 9999-15/2 ESD Electro-static Discharge Management

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Automated test equipment
2. MK-2663/U electronic equipment maintenance kit

8641-ACT-2309: Install surface mount technology devices

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

DESCRIPTION: This is a necessary MOS only, assigned to eligible Marines who have completed the Microminiature/Automated Test Equipment Technician Course at MCCES, 29 Palms, CA.

MOS PERFORMING: 8641

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

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, and assigned maintenance area, circuit card assemblies with surface mounted devices and a circuit card repair station.

STANDARD: To minimum workmanship standards of acceptance as described in TM 5895-45/1_, WP 005, page 18, paragraph 5.13; TM 5895-45/1_, WP 006, page 24, paragraph 6.4; TM 5895-45/1_, WP 007, page 29, paragraph 7.4; and TM 5895-45/1_, WP 018, page 50, paragraph 18.2.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Ensure proper handling of static sensitive components/printed circuit cards.
3. Identify the installation method.
4. Install the surface mounted component(s).
5. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. MCO 2410.2_ Electromagnetic Environmental Control Program
2. MSDS Material Safety Data Sheets

3. TI 4400-15/5 Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
4. TI 5895-45/1 AN/USM and AN/USM-674 Test Station Gold Disk and Silver Disk Program
5. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair
6. TM 9999-15/1 ESD Awareness Electro-Static Discharge
7. TM 9999-15/2 ESD Electro-static Discharge Management

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Automated test equipment
2. MK-2663/U electronic equipment maintenance kit

8641-ACT-2310: Prepare Automated Test Equipment for operation

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

DESCRIPTION: This is a necessary MOS only, assigned to eligible Marines who have completed the Microminiature/Automated Test Equipment Technician Course at MCCES, 29 Palms, CA.

MOS PERFORMING: 8641

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

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, an assigned maintenance area, an Automated Test Equipment station, circuit card assemblies and software.

STANDARD: In accordance with TM 10793A-10/1, Chapters 3 and 4.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Perform equipment inspections/inventories.
3. Perform preventive maintenance on ATE, as required.
4. Perform preventive maintenance on a circuit card repair station.
5. Identify equipment malfunctions, as required.
6. Replace damaged or missing equipment/tools, as required.
7. Verify equipment operation.
8. Load appropriate programs.
9. Verify software operation.

REFERENCES:
1. Marine Corps Module Test Repair Tracking System User's Manual Marine Corps Module Test Repair Tracking System User's Manual
2. SL-3-10793 AN/USM-674
3. ST-90 Shortrak 90 User's Manual
4. ST900-HN-GPT-020 Protrack I Model 20A Technical and Operations Manual
5. TM-09810A-40/6 Gold and Silver Disk User's Manual
6. TM-09810A-50/4 ATR Tutorial

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Automated test equipment
2. AN/USM-657 (V2) Third Echelon Test Set (TETS)

8641-ACT-2311: Perform troubleshooting on circuit card assemblies

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

DESCRIPTION: This is a necessary MOS only, assigned to eligible Marines who have completed the Microminiature/Automated Test Equipment Technician Course at MCCES, 29 Palms, CA.

MOS PERFORMING: 8641

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

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, an assigned maintenance area, an Automated Test Equipment station and circuit card assemblies.

STANDARD: In accordance with TM 10793A-10/1, Chapter 6.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Ensure proper handling of static sensitive components/printed circuit cards.
3. Locate test routine.
4. Execute test routine according to instructions.
5. Isolate faulty component(s).
6. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. MCO 2410.2_ Electromagnetic Environmental Control Program
2. ST-90 Shortrak 90 User's Manual
3. TI 4400-15/5 Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
4. TM 9999-15/1 ESD Awareness Electro-Static Discharge
5. TM 9999-15/2 ESD Electro-static Discharge Management
6. TM-09810A-40/6 Gold and Silver Disk User's Manual
7. TM-09810A-50/4 ATR Tutorial
8. TM-10793A-10/1 MTR User's Manual

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Automated test equipment
2. AN/USM-657 (V2) Third Echelon Test Set (TETS)

8641-ACT-2312: Create a test routine

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

DESCRIPTION: This is a necessary MOS only, assigned to eligible Marines who have completed the Microminiature/Automated Test Equipment Technician Course at MCCES, 29 Palms, CA.

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: In accordance with TM 10793A-10/1, Chapter 5 and TM 09810A-50/5 Chapters 4 and 5.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Develop test routine instructions.
3. Store component signatures.
4. Develop test routine illustrations.
5. Develop test routine database.
6. Verify test routine.

REFERENCES:
1. MCO 2410.2_ Electromagnetic Environmental Control Program
2. ST-90 Shortrak 90 User's Manual
3. TI 4400-15/5 Packaging, Handling, Storage, and Transportation of Electrostatic Discharge Sensitive Items
4. TM 09810A-50/5 Department of Defense AN/USM-646 Gold/Silver disk; Test Station Electrical/Electronic; Development Procedure Manual
5. TM 9999-15/1 ESD Awareness Electro-Static Discharge
6. TM 9999-15/2 ESD Electro-static Discharge Management

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Automated test equipment
2. Applicable APS
3. AN/USM-657 (V2) Third Echelon Test Set (TETS)

8641-ACT-2313: Install wires on connectors/terminals

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

DESCRIPTION: This is a necessary MOS only, assigned to eligible Marines who have completed the Microminiature/Automated Test Equipment Technician Course at MCCES, 29 Palms, CA.

MOS PERFORMING: 8641

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

INITIAL TRAINING SETTING: FORMAL

CONDITION: With the aid of references, an assigned maintenance area, a circuit card repair station, connectors, terminals and wire.

STANDARD: To minimum workmanship standards of acceptance as described in TM 5895-45/1_, WP 005, page 18, paragraph 5.13; TM 5895-45/1_, WP 006, page 24, paragraph 6.4; TM 5895-45/1_, WP 007, page 29, paragraph 7.4; TM 5895-45/1_, WP 008, page 21, paragraph 8.4; and TM 5895-45/1_, WP 009, page 13, paragraph 9.4.

PERFORMANCE STEPS:
1. Adhere to safety requirements.
2. Prepare a wire lead.
3. Install a wire lead.
4. Replace conformal coating, as required.
5. Perform maintenance closeout procedures to include quality assurance checks.

REFERENCES:
1. MSDS Material Safety Data Sheets
2. TI 5895-45/1 AN/USM and AN/USM-674 Test Station Gold Disk and Silver Disk Program
3. TM 5895-45/1 Standard Miniature/2M Maintenance Practices for Electronic Assembly Repair

SUPPORT REQUIREMENTS:

EQUIPMENT: Support Equipment:
1. Automated test equipment
2. MK-2663/U electronic equipment maintenance kit

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APPENDIX A

ACRONYMS AND ABBREVIATIONS

ATE. . . . . Automated Test Equipment
BDA. . . . . battle damage assessment
C2. . . . . command and control
C2W . . . . . command and control warfare
C4. . . . . command, control, communications, and computers
C4I. . . . . command, control, communications, computers and intelligence
C4ISR. . . . . command, control, communications, computers, intelligence, surveillance and reconnaissance
CA. . . . . civil affairs
CAG . . . . . civil affairs group
CCIR . . . . . commander's critical information requirements
CE . . . . . command element
CI . . . . . counterintelligence
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
CLS . . . . . Contractor Logistical Support
COA . . . . . course of action
COG . . . . . centers of gravity
COMSEC . . . . . communications security
CONOPS . . . . . contingency operations
CP . . . . . counter-propaganda
DCID . . . . . Director of Center Intelligence Directive
DISA . . . . . Defense Information Systems Agency
DLR . . . . . Depot Level Reparables
DITS . . . . . Deployable Integrated Transport Suite
DoD . . . . . Department of Defense
DTC . . . . . Digital Technical Control Facility
E3 . . . . . electromagnetic environmental effects
EA . . . . . electronic attack
ELMACO . . . . . Electronics Maintenance Company
EMI . . . . . electromagnetic interference
EMO . . . . . Electronics Maintenance Officer
EPLRS . . . . . Enhanced Position Reporting System
ERO . . . . . equipment repair order
ES . . . . . electronic support
ESD . . . . . electrostatic discharge
FFR . . . . . Firefinder Radar
FM . . . . . field manual (army)
GDU . . . . . Gun Direction Unit
GIG . . . . . Global Information Grid
GMF . . . . . Ground Mobile Forces
GPTE . . . . . General Purpose Test Equipment
INFOSEC . . . . . information security
JCMA . . . . . joint COMSEC monitoring activity
JCS . . . . . Joint Chiefs of Staff
JCSE . . . . . joint communications support element

JEECS . . . . . Joint Enhanced Core Communication System
LD . . . . . low density
LRU . . . . . line replaceable unit
LTI . . . . . limited technical inspection
MAGTF . . . . . Marine air-ground task force
MEE . . . . . Mission Essential Equipment
MEF . . . . . Marine Expeditionary Force
MEU . . . . . Marine Expeditionary Unit
MIMMS . . . . . Marine Corps Integrated Maintenance Management System
MI . . . . . modification instruction
MIS . . . . . maintenance information systems
MMS . . . . . Meteorological Measuring Station
MSC . . . . . Major Subordinate Command
MVS . . . . . Muzzle Velocity System
NCS . . . . . Net Control Station
OPLAN . . . . . operation plan
OPORD . . . . . operation order
OPSEC . . . . . operations security
PADS . . . . . Position Azimuth Determining System
PAO . . . . . public affairs officer
PEB . . . . . pre-extend bin
PQDR . . . . . Product Quality Deficiency Report
RadBn . . . . . radio battalion
RMC . . . . . Reparables Maintenance Company
SATCOM . . . . . satellite communications
SCR . . . . . single channel radio
SECREP . . . . . secondary reparable
SOP . . . . . standing operating procedures
SRU . . . . . shop reparable unit
T/E . . . . . Table of Equipment
TERPES . . . Tactical Electronic Reconnaissance Processing Evaluation System
TETS . . . . . Third Echelon Test Set
TI . . . . . technical instruction
TMDE. . . . . test measurement and diagnostic equipment
T/O . . . . . Table of Organization
T/O&E . . . . . Table of Organization and Equipment
TRSS . . . . . Tactical Remote Sensor System
TSM . . . . . Transition Switch Module
UUT . . . . . Unit Under Test
WIR . . . . . Recoverable Items Report

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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 Pub 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.

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. Utilizing the building block approach to progressive training, these collective events are further supported by individual training events at the 1000 and 2000-levels. 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.

Civil Affairs. Designated Active and Reserve component forces and units organized, trained, and equipped specifically to conduct civil affairs activities and to support civil-military operations. See also civil affairs activities; civil-military operations. Also called CA. (JP 1-02)

Civil Military Operations. The activities of a commander that establish, maintain, influence, or exploit relations between military forces, governmental and nongovernmental civilian organizations and authorities, and the civilian populace in a friendly, neutral, or hostile operational area in order to facilitate military operations, to consolidate and achieve operational US objectives. Civil Military Operations may include performance by military forces of activities and functions normally the responsibility of

the local, regional, or national government. These activities may occur prior to, during, or subsequent to other military actions. They may also occur, if directed, in the absence of other military operations. Civil military operations may be performed by designated civil affairs, by other military forces, or by a combination of civil affairs and other forces. Also called CMO. (JP 1-02)

Collective Event. A clearly defined, discrete, and measurable activity, action, or event (i.e., task) that requires organized team or unit performance and leads to accomplishment of a mission or function. A collective task is derived from unit missions or higher-level collective tasks. Task accomplishment requires performance of procedures composed of supporting collective or individual tasks. A collective task describes the exact performance a group must perform in the field under actual operational conditions. The term "collective" does not necessarily infer that a unit accomplishes the event. A unit, such as a squad or platoon conducting an attack may accomplish a collective event or, it may be accomplished by an individual to accomplish a unit mission, such as a battalion supply officer completing a reconciliation of the battalion's CMR. Thus, many collective events will have titles that are the same as individual events; however, the standard and condition will be different because the scope of the collective event is broader.

Collective Training Standards (CTS). Criteria that specify mission and functional area unit proficiency standards for combat, combat support, and combat service support units. They include tasks, conditions, standards, evaluator instruction, and key indicators. CTS are found within collective training events in T&R manuals.

Combat Readiness Cycle. The combat readiness cycle depicts the relationships within the building block approach to training. The combat readiness cycle progresses from T&R Manual individual core skills training, to the accomplishment of collective training events, and finally, to a unit's participation in a contingency or actual combat. The combat readiness cycle demonstrates the relationship of core capabilities to unit combat readiness. Individual core skills training and the training of collective events lead to unit proficiency and the ability to accomplish the unit's stated mission.

Combat Readiness Percentage (CRP). The CRP is a quantitative numerical value used in calculating collective training readiness based on the E-coded events that support the unit METL. CRP is a concise measure of unit training accomplishments. This numerical value is only a snapshot of training readiness at a specific time. As training is conducted, unit CRP will continuously change.

Component Events. Component events are the major tasks involved in accomplishing a collective event. Listing these tasks guide Marines toward the accomplishment of the event and help evaluators determine if the task has been done to standard. These events may be lower-level collective or individual events that must be accomplished.

Computer Network Attack. Operations to disrupt, deny, degrade, or destroy information resident in computers and computer networks, or the computers and networks themselves. Electronic attack (EA) can be used against a computer, but it is not computer network attack (CNA). CNA relies on the data stream

to execute the attack while EA relies on the electromagnetic spectrum. An example of the two operations is the following: sending a code or instruction to a central processing unit that causes the computer to short out the power supply is CNA. Using an electromagnetic pulse device to destroy a computer's electronics and causing the same result is EA. Also called CNA. (JP 1-02)

Computer Network Defense. Defensive measures to protect and defend information, computers, and networks from disruption, denial, degradation, or destruction. Also called CND. (JP 1-02).

Computer Network Exploitation. Enabling operations and intelligence collection to gather data from target or adversary automated information systems or networks. (DoDI 3600.1)

Computer Network Operations. Comprised of CNA, CND, and related CNE enabling operations. (DoDI 3600.1)

Condition. The condition describes the training situation or environment under which the training event or task will take place. Expands on the information in the title by identifying when, where, and why the event or task will occur and what materials, personnel, equipment, environmental provisions, and safety constraints must be present to perform the event or task in a real-world environment. Commanders can modify the conditions of the event to best prepare their Marines to accomplish the assigned mission (e.g.: in a desert environment; in a mountain environment; etc.).

Core Competency. Core competency is the comprehensive measure of a unit's ability to accomplish its assigned MET. It serves as the foundation of the T&R Program. Core competencies are those unit core capabilities and individual core skills that support the commander's METL and T/O mission statement. Individual competency is exhibited through demonstration of proficiency in specified core tasks and core plus tasks. Unit proficiency is measured through collective tasks.

Core Capabilities. Core capabilities are the essential functions a unit must be capable of performing during extended contingency/combat operations. Core unit capabilities are based upon mission essential tasks derived from operational plans; doctrine and established tactics; techniques and procedures.

Core Plus Capabilities. Core plus capabilities are advanced capabilities that are environment, mission, or theater specific. Core plus capabilities may entail high-risk, high-cost training for missions that are less likely to be assigned in combat.

Core Plus Skills. Core plus skills are those advanced skills that are environment, mission, rank, or billet specific. 2000-level training is designed to make Marines proficient in core skills in a specific billet or at a specified rank at the Combat Ready level. 3000-8000-level training produces combat leaders and fully qualified section members at the Combat Qualified level. Marines trained at the Combat Qualified level are those the commanding officer feels are capable of accomplishing unit-level missions and of directing the actions of subordinates. Many core plus tasks are learned

via MOJT, while others form the base for curriculum in career level MOS courses taught by the formal school.

Core Skills. Core skills are those essential basic skills that "make" a Marine and qualify that Marine for an MOS. They are the 1000-level skills introduced in entry-level training at formal schools and refined in operational units.

Counter-Intelligence. Information gathered and activities conducted to protect against espionage, other intelligence activities, sabotage, or assassinations conducted by or on behalf of foreign governments or elements thereof, foreign organizations, or foreign persons, or international terrorist activities. Also called CI. (JP 1-02)

D

Deception. Those measures designed to mislead the enemy by manipulation, distortion, or falsification of evidence to induce the enemy to react in a manner prejudicial to the enemy's interests. (JP 1-02)

Defense Readiness Reporting System (DRRS). A comprehensive readiness reporting system that evaluates readiness on the basis of the actual missions and capabilities assigned to the forces. It is a capabilities-based, adaptive, near real-time reporting system for the entire Department of Defense.

Deferred Event. A T&R event that a commanding officer may postpone when in his or her judgment, a lack of logistic support, ammo, ranges, or other training assets requires a temporary exemption. CRP cannot be accrued for deferred "E-coded" events.

Delinquent Event. An event becomes delinquent when a Marine or unit exceeds the sustainment interval for that particular event. The individual or unit must update the delinquent event by first performing all prerequisite events. When the unit commander deems that performing all prerequisite is unattainable, then the delinquent event will be re-demonstrated under the supervision of the appropriate evaluation authority.

E

E-Coded Event. An "E-Coded" event is a collective T&R event that is a noted indicator of capability or, a noted Collective skill that contributes to the unit's ability to perform the supported MET. As such, only "E-Coded" events are assigned a CRP value and used to calculate a unit's CRP.

Electronic Warfare. Any military action involving the use of electromagnetic and directed energy to control the electromagnetic spectrum or to attack the enemy. Also called EW. The three major subdivisions within electronic warfare are: electronic attack, electronic protection, and electronic warfare support. (a) electronic attack. That division of electronic warfare involving the use of electromagnetic energy, directed energy, or antiradiation weapons to attack personnel, facilities, or equipment with the intent of degrading, neutralizing, or destroying enemy combat capability and is considered a form of fires. Also called EA. EA includes: (1) actions taken to prevent or reduce an enemy's effective use of the electromagnetic

spectrum, such as jamming and electromagnetic deception, and (2) employment of weapons that use either electromagnetic or directed energy as their primary destructive mechanism (lasers, radio frequency weapons, particle beams). (b) electronic protection. That division of electronic warfare involving passive and active means taken to protect personnel, facilities, and equipment from any effects of friendly or enemy employment of electronic warfare that degrade, neutralize, or destroy friendly combat capability. Also called EP. (c) electronic warfare support. That division of electronic warfare involving actions tasked by, or under direct control of, an operational commander to search for, intercept, identify, and locate or localize sources of intentional and unintentional radiated electromagnetic energy for the purpose of immediate threat recognition, targeting, planning and conduct of future operations. Thus, electronic warfare support provides information required for decisions involving electronic warfare operations and other tactical actions such as threat avoidance, targeting, and homing. Also called ES. Electronic warfare support data can be used to produce signals intelligence, provide targeting for electronic or destructive attack, and produce measurement and signature intelligence. (JP 1-02)

Entry-level Training. Pipeline training that equips students for service with the Marine operating forces.

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). 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. An event within the T&R Program can be an individual training evolution, a collective training evolution or both. Through T&R events, the unit commander ensures that individual Marines and the unit progress from a combat capable status to a Fully Combat Qualified (FCQ) status.

Event Component. The major procedures (i.e., actions) that must occur to perform a collective event to standard.

Exercise Commander (EC). The Commanding General, Marine Expeditionary Force or his appointee will fill this role, unless authority is delegated to the respective commander of the Division, Wing, or FSSG. Responsibilities and functions of the EC include: (1) designate unit(s) to be evaluated, (2) may designate an exercise director, (3) prescribe exercise objectives and T&R events to be evaluated, (4) coordinate with commands or agencies external to the Marine Corps and adjacent Marine Corps commands, when required.

Exercise Director (ED). Designated by the EC to prepare, conduct, and report all evaluation results. Responsibilities and functions of the ED include: (1) Publish a letter of instruction (LOI) that: delineates the T&R events to be evaluated, establishes timeframe of the exercise, lists responsibilities of various elements participating in the exercise, establishes safety requirements/guidelines, and lists coordinating instructions. (2) Designate the TEC and TECG to operate as the central control agency for the exercise. (3) Assign evaluators, to include the senior evaluator, and ensure that those

evaluators are properly trained. (4) Develop the general exercise scenario taking into account any objectives/ events prescribed by the EC. (5) Arrange for all resources to include: training areas, airspace, aggressor forces, and other required support.

I

Individual Readiness. The individual training readiness of each Marine is measured by the number of individual events required and completed for the rank or billet currently held.

Individual Training. Training that applies to individual Marines. Examples include rifle qualifications and HMMWV driver licensing.

Individual Training Standards (ITS). Specifies training tasks and standards for each MOS or specialty within the Marine Corps. In most cases, once an MOS or community develops a T&R, the ITS order will be cancelled. However, most communities will probably fold a large portion of their ITS into their new T&R manual.

Information Assurance. Information operations that protect and defend information and information systems by ensuring their availability, integrity, authentication, confidentiality, and nonrepudiation. This includes providing for restoration of information systems by incorporating protection, detection, and reaction capabilities. Also called IA. (JP 1-02)

L

Line Replaceable Unit (LRU). An essential support item removed and replaced to restore an end item or communication network to an operationally ready condition. This term is normally used to describe removal and replacement of secondary reparable items or other subassemblies while the end item is on the line or operational as opposed to maintenance actions conducted in the repair shop.

> **Example:** Restoration of a HF Radio network may involve replacing the Receiver/Transmitter or a radio frequency cable assembly. The definition may also extend to the replacement of a chassis-mounted component such as a switch or circuit breaker if the repair was conducted outside of the repair shop by a technician possessing the skills and tools necessary to safely and effectively conduct the repair.

M

Marine Corps Combat Readiness and Evaluation System (MCCRES). An evaluation system designed to provide commanders with a comprehensive set of mission performance standards from which training programs can be developed; and through which the efficiency and effectiveness of training can be evaluated. The Ground T&R Program will eventually replace MCCRES.

Marine Corps Ground Training and Readiness (T&R) Program. The T&R Program is the Marine Corps' primary tool for planning and conducting training, for planning and conducting training evaluation, and for assessing training readiness. The program will provide the commander with standardized programs of instruction for units within the ground combat, combat support, and combat service support communities. It consolidates the ITS, CTS, METL and other

individual and unit training management tools. T&R is a program of standards that systematizes commonly accepted skills, is open to innovative change, and above all, tailors the training effort to the unit's mission. Further, T&R serves as a training guide and provides commanders an immediate assessment of unit combat readiness by assigning a CRP to key training events. In short, the T&R Program is a building block approach to training that maximizes flexibility and produces the best-trained Marines possible.

Mission Essential Task(s) MET(s). A MET is a collective task in which an organization must be proficient in order to accomplish an appropriate portion of its wartime mission(s). MET listings are the foundation for the T&R manual; all events in the T&R manual support a MET.

Mission Essential Task List (METL). Descriptive training document that provides units a clear, war fighting focused description of collective actions necessary to achieve wartime mission proficiency. The service-level METL, that which is used as the foundation of the T&R manual, is developed using Marine Corps doctrine, Operational Plans, T/Os, UJTL, UNTL, and MCTL. For community based T&R Manuals, an occupational field METL is developed to focus the community's collective training standards. Commanders develop their unit METL from the service-level METL, operational plans, contingency plans, and SOPs.

Mission Performance Standards (MPS). 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. MPS are contained within the MCCRES volumes. The MCCRES volumes are being replaced by T&R Manuals. Collective events will replace MPS.

O

Operational Readiness (OR). (DoD or NATO) OR is the capability of a unit/formation, ship, weapon system, or equipment to perform the missions or functions for which it is organized or designed. May be used in a general sense or to express a level or degree of readiness.

Operations Security. A process of identifying critical information and subsequently analyzing friendly actions attendant to military operations and other activities to: a. identify those actions that can be observed by adversary intelligence systems; b. determine indicators that hostile intelligence systems might obtain that could be interpreted or pieced together to derive critical information in time to be useful to adversaries; and c. select and execute measures that eliminate or reduce to an acceptable level the vulnerabilities of friendly actions to adversary exploitation. (JP 1-02)

P

Performance Step. Performance steps are included in the components of an Individual T&R Event. They are the major procedures (i.e., actions) a Marine unit must accomplish to perform an individual event to standard. They describe the procedure the task performer must take to perform the task under operational conditions and provide sufficient information for a task performer to perform the procedure (may necessitate identification of

supporting steps, procedures, or actions in outline form). Performance steps follow a logical progression and should be followed sequentially, unless otherwise stated. Normally, performance steps are listed only for 1000-level individual events (those that are taught in the entry-level MOS school). Listing performance steps is optional if the steps are already specified in a published reference.

Physical Security. (DoD, NATO) That part of security concerned with physical measures designed to safeguard personnel; to prevent unauthorized access to equipment, installations, material, and documents; and to safeguard them against espionage, sabotage, damage, and theft. (JP 1-02)

Prerequisite Event. Prerequisites are the academic training and/or T&R events that must be completed prior to attempting the event.

Psychological Operations. Planned operations to convey selected information and indicators to foreign audiences to influence their emotions, motives, objective reasoning, and ultimately the behavior of foreign governments, organizations, groups, and individuals. The purpose of psychological operations is to induce or reinforce foreign attitudes and behavior favorable to the originator's objectives. Also called PSYOP. (JP 1-02)

Public Affairs. The use of command information, community relations activities and public information directed to various national and international publics, in support of combatant commander public information needs at all operational levels. Also called PA.

R

Readiness. (DoD) Readiness is the ability of U.S. military forces to fight and meet the demands of the national military strategy. Readiness is the synthesis of two distinct but interrelated levels: (a) Unit readiness – The ability to provide capabilities required by combatant commanders to execute assigned missions. This is derived from the ability of each unit to deliver the outputs for which it was designed. (b) Joint readiness--The combatant commander's ability to integrate and synchronize ready combat and support forces to execute assigned missions.

S

Secondary Reparable (SECREP). Certain specified items which are not functional by themselves but are components of other items and repairable as indicated by their Source, Maintenance and Recoverability Code (SMRC). These items are defined in detail and managed in accordance with the current edition of MCO P4400.82.

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).

Shop Replaceable Unit (SRU). An essential support item removed and replaced to restore a line replaceable unit (LRU) to an operationally ready condition. This term is normally used to describe removal and replacement of secondary reparable items or chassis-mounted components from the next higher assembly and/or Line Replaceable Unit while in the repair shop.

Example: Performing corrective maintenance on an HF Radio end item may involve inducting the Receiver/Transmitter (an LRU) into the repair shop. Under the terms of this definition, the secondary reparables or components mounted within the chassis of the RT would be considered SRUs as this type of repair would not normally be conducted on the line.

Simulation Training. Simulators provide the additional capability to develop and hone core and core plus skills. Accordingly, the development of simulator training events for appropriate T&R syllabi can help maintain valuable combat resources while reducing training time and cost. Therefore, in cases where simulator fidelity and capabilities are such that simulator training closely matches that of actual training events, T&R Manual developers may include the option of using simulators to accomplish the training. CRP credit will be earned for E-Coded simulator events based on assessment of relative training event performance.

Standard. A standard is a statement that establishes criteria for how well a task or learning objective must be performed. The standard specifies how well, completely, or accurately a process must be performed or product produced. For higher-level collective events, it describes why the event is being done and the desired end-state of the event. Standards become more specific for lower-level events and outline the accuracy, time limits, sequencing, quality, product, process, restrictions, etc., that indicate the minimum acceptable level of performance required of the event. At a minimum, both collective and individual training standards consist of a task, the condition under which the task is to be performed, and the evaluation criteria that will be used to verify that the task has been performed to a satisfactory level.

Sustainment Training. Periodic retraining or demonstration of an event required maintaining the minimum acceptable level of proficiency or capability required to accomplish a training objective. Sustainment training goes beyond the entry-level and is designed to maintain or further develop proficiency in a given set of skills.

Systems Approach to Training (SAT). An orderly process for analyzing, designing, developing, implementing, and evaluating a unit's training program to ensure the unit, and the Marines of that unit acquire the knowledge and skills essential for the successful conduct of the unit's wartime missions.

T

Training Task. This describes a direct training activity that pertains to an individual Marine. A task is composed of 3 major components: a description of what is to be done, a condition, and a standard.

Technical Exercise Controller (TEC). The TEC is appointed by the ED, and usually comes from his staff or a subordinate command. The TEC is the senior evaluator within the TECG and should be of equal or higher grade than the commander(s) of the unit(s) being evaluated. The TEC is responsible for ensuring that the evaluation is conducted following the instructions contained in this directive and MCO 1553.3A. Specific T&R Manuals are used as the source for evaluation criteria.

Tactical Exercise Control Group (TECG). A TECG is formed to provide subject matter experts in the functional areas being evaluated. The benefit of establishing a permanent TECG is to have resident, dedicated evaluation authority experience, and knowledgeable in evaluation technique. The responsibilities and functions of the TECG include: (1) developing a detailed exercise scenario to include the objectives and events prescribed by the EC/ED in the exercise LOI; (2) conducting detailed evaluator training prior to the exercise; (3) coordinating and controlling role players and aggressors; (4) compiling the evaluation data submitted by the evaluators and submitting required results to the ED; (5) preparing and conducting a detailed exercise debrief for the evaluated unit(s).

Training Plan. A document that outlines the general plan for the conduct of individual and collective training in an organization for specified periods of time.

U

Unit CRP. Unit CRP is a percentage of the E-coded collective events that support the unit METL accomplished by the unit. Unit CRP is the average of all MET CRP.

Unit Evaluation. All units in the Marine Corps must be evaluated, either formally or informally, to ensure they are capable of conducting their combat mission. Informal evaluations should take place during all training events. The timing of formal evaluations is critical and should, when appropriate, be directly related to the units' operational deployment cycle. Formal evaluations should take place after the unit has been staffed with the majority of its personnel, has had sufficient time to train to individual and collective standards, and early enough in the training cycle so there is sufficient time to correctly identified weaknesses prior to deployment. All combat units, and units task organized for combat require formal evaluations prior to operational deployments.

Unit Training Management (UTM). Unit training management is the use of the SAT and Marine Corps training principles in a manner that maximizes training results and focuses the training priorities of the unit on its wartime mission. UTM governs the major peacetime training activity of the Marine Corps and applies to all echelons of the Total Force.

W

Waived Event. An event that is waived by a commanding officer when in his or her judgment, previous experience or related performance satisfies the requirement of a particular event.