



UNITED STATES MARINE CORPS  
MARINE CORPS AIR STATION  
CHERRY POINT, NORTH CAROLINA 28533-5001

AirStaO P4790.1C  
6IAL/dha  
0 5 JUL 1990

AIR STATION ORDER P4790.1C w/ch 1

From: Commanding General  
To: Distribution List

Subj: STANDING OPERATING PROCEDURES FOR MAINTENANCE MANAGEMENT  
(Short Title: Maintenance Management SOP)

Ref: (a) MCO P4790.2

Encl: (1) LOCATOR SHEET

1. Purpose. To establish maintenance management policy and procedures in accordance with the reference.
2. Cancellation. AirStaO P4790.1B
3. Summary of Revision. This revision contains a substantial number of changes and should be completely reviewed.
4. Recommendations. Recommendations for changes to this Order are invited. Submit proposed changes via appropriate chain of command for evaluation.
5. Certification. Reviewed and approved this date.

  
M. W. WEHRUNG  
Chief of Staff

DISTRIBUTION: A-1 plus L(10)



UNITED STATES MARINE CORPS  
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CHERRY POINT, NORTH CAROLINA 28533-5001

AirStaO P4790.1C Ch 1  
61AL/dha  
10 JUL 1991

AIR STATION ORDER P4790.1C Ch 1

From: Commanding General  
To: Distribution List

Subj: STANDING OPERATING PROCEDURES FOR MAINTENANCE MANAGEMENT  
(Short Title: Maintenance Management SOP)

Encl: (1) New page inserts to AirStaO P4790.1C

1. Purpose. To transmit new page inserts to the basic Manual
2. Action
  - a. Remove present pages 1-1 through 1-14 of the basic Manual and replace with pages 1-1 through 1-15 contained in the enclosure.
  - b. Remove present pages 2-1, and 2-5 through 2-20 of the basic Manual and replace with corresponding pages contained in the enclosure
  - c. Remove present pages 3-1, and 3-7 through 3-15 of the basic Manual and replace with pages 3-1, and 3-7 through 3-16 contained in the enclosure.
  - d. Remove pages 8-3 through 8-8 of the basic Manual and replace with corresponding pages contained in the enclosure.
3. Summary of Changes The major changes are as follows:
  - a. Inclusion of Marksmanship Training Unit (MTU); Explosive Ordnance Disposal (EOD); Crash, Fire, and Rescue (CFR); and Communication Electronics Officer (CEO) into the parameters of maintenance management.
  - b. Provides updated applicability of Maintenance Management SOPs
  - c. Provides updated calibration information
  - d. Provides updated applicability of the Equipment Repair Order (ERO).
  - e. Provides updated Quality Deficiency Report (QDR) information
4. Change Notation. Significant changes contained in the revised pages for this change are denoted by an asteric (\*) symbol.

AirSta0 P4790.1C Ch 1

10 JUL 1991

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

6. Certification. Reviewed and approved this date

  
D. T. SAVAGE  
Chief of Staff

DISTRIBUTION: A-1 less CHAP, EEO, JLC, MAO, MWR, PAO, CG Files (15)

MAINTENANCE MANAGEMENT SOP

AirSta0 P4790.1C

LOCATOR SHEET

Subj: Standing Operating Procedures for Maintenance Management  
(Short Title: Maintenance Management SOP)

Location: - \_\_\_\_\_ - - - - -  
!Indicate the location(s) of the copy(ies) of this manual.!

MAINTENANCE MANAGEMENT SOP

RECORD OF CHANGES

Log completed change action as indicated.

Change Number	Date of Change	Date Received	Date Entered	Signature of Person Entering Change
1	10 Jul 91	19 Jul 91	24 Jul 91	Brett L Payne

# MAINTENANCE MANAGEMENT SOP

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MAINTENANCE MANAGEMENT SOP

CHAPTER 1

GENERAL INFORMATION

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# MAINTENANCE MANAGEMENT SOP

## CHAPTER 1

### GENERAL INFORMATION

#### 1000. INTRODUCTION TO MAINTENANCE MANAGEMENT

1. Purpose. This Manual has as its purpose the promulgation of policies, procedures, and instructions for the implementation and administration of maintenance management within Marine Corps Air Station, Cherry Point.

#### 2. Status and Scope

a. Requirements in this Manual are binding on all Marine Corps Air Station, Cherry Point organizations.

b. Any deviation from instructions contained in this Manual must be authorized by the Commanding General, Marine Corps Air Station, Cherry Point (Director of Facilities).

c. This Manual contains instructions for the implementation and administration of maintenance management procedures.

#### 3. Marine Corps Integrated Maintenance Management System (MIMMS)

a. The current editions of Marine Corps Order P4790.1, MIMMS Introduction Manual, and Marine Corps Order P4790.2, MIMMS Field Procedures Manual, establishes the policies and procedures for the management of ground equipment maintenance in the Marine Corps. The objective of MIMMS is to establish a uniform maintenance management system for ground equipment.

b. This Manual provides a comprehensive guide for the performance and management of ground equipment maintenance within Marine Corps Air Station, Cherry Point organizations. Command and staff relationships in the accomplishment of equipment maintenance programs are established. Equipment maintenance and maintenance management functions are identified, procedures provided for their accomplishment, and responsibility assigned the appropriate organization. Relationships between MIMMS and other Marine Corps programs that are maintenance related are identified and explained.

4. For the purpose of implementation of MIMMS at this command, the term "Organization" as used in this Manual shall be considered synonymous with "department, branch, detachment and unit", and the term "Commander" synonymous with "manager, head, officer in charge, and commanding officer".

a. Priorities. To achieve a high state of equipment readiness and extract maximum effectiveness from the maintenance and supply system, it is necessary to establish clear maintenance priorities. In order of importance they are:

- a. The repair of deadlined mission essential equipment.
- b. The procurement of repair parts, tools, and publications.
- c. The timely flow of equipment through the maintenance cycle
- d. The establishment and maintenance of accurate records to be used for future management decisions.

#### 6. Appliability

a. The ground equipment currently assigned which falls within the scope of this manual is as follows:

\* (1) Small arms and related equipment assigned to the Station Armory, to include MTU.

(2) Garrison Mobile Equipment (GME) and Materials Handling Equipment assigned to the Station Motor Pool.

(3) Audiovisual equipment assigned to the Training and Audiovisual Support Center less aviation training devices.

\* (4) Explosive Ordnance Disposal (EOD).

\* (5) Crash, fire, and Rescue (CFR).

\* (6) Telephone equipment assigned to Communications Electronics Office (CEO).

b. The following levels of equipment maintenance are authorized:

(1) Organizational maintenance (1st echelon) on all assigned equipment.

(2) Second echelon on audiovisual equipment except video equipment.

(3) Intermediate level maintenance (3rd echelon) on assigned infantry weapons and on video equipment when a civilian technician is assigned.

(4) Maintenance necessary to ensure the safe and efficient operation of garrison mobile equipment (GME) in accordance with the criteria established by Marine Corps directives in the 11240 and 11260 series. All echelons of maintenance, to include 5th echelon, are authorized.

c. Specifically excluded from the provisions of this Manual are appliances used in government quarters, push-type mowers, field printing equipment, non-tactical food service equipment, and bicycles.

#### 1001. COMMAND RESPONSIBILITIES

1. The requirement to maintain material in a condition to perform its assigned function is an essential responsibility of the commander. Each commander shall personally ensure that a sound and continuing equipment maintenance program exists within the organization and that proper maintenance procedures are followed per applicable directives. Commanders of all Station organizations are responsible for implementation of, and adherence to the policies, procedures, and instructions contained in this Manual.

2. To ensure that an effective equipment maintenance program is established and implemented, commanders must:

a. Provide necessary guidance in the formulation of standing operating procedures, desktop procedures, and turnover folders.

b. Ensure that the necessary tools, test, measuring and diagnostic equipment (TMDE), publications, personnel, supplies, and facilities are available and used properly.

c. Assign responsibilities to individuals to accomplish necessary maintenance and associated documentation.

d. Allocate sufficient time to accomplish required maintenance.

e. Provide necessary technical training to enable assigned personnel to accomplish the maintenance mission.

f. Provide the impetus for the program through an active, continuing and visible display of command emphasis and genuine interest. The establishment support and maintenance of a viable internal review program is critical to the maintenance and supply efforts.

g. Assign in writing a Maintenance Management Officer as required.

h. Conduct periodic working inspections of maintenance activities.

i. Ensure authorized maintenance in current Tables of Organization (T/O's) are not exceeded without prior approval to this headquarters.

j. Ensure all requirements and programs which have been implemented are still current and pertinent.

3. Subordinate organizational commanders shall advise their senior commanders of any equipment maintenance problems which cannot be resolved through normal channels and procedures.

4. Requirement for a Maintenance Management Officer

a. Units, to include separate and detached commands, which are authorized second echelon or higher maintenance capability for more than one commodity area, shall assign an Officer or Staff Noncommissioned Officer (SNCO), in writing, as the Maintenance Management Officer (MMO) to provide supervision over equipment maintenance. In units that do not meet the above criteria, the individual designated as the commodity manager shall perform the maintenance management functions and need not be assigned as the MMO. These responsibilities will be assigned as a primary duty for a Staff Noncommissioned Officer (SNCO) when a full-time assignment (officer) is not required. MCO P4790.1 and MCO P4790.2 applies.

b. An MMO need not be assigned in a headquarters squadron when the parent organization has an MMO assigned and maintenance functions are performed under the cognizance of members of the executive/special staff.

1002. STAFF RESPONSIBILITIES

1. Director of Facilities

a. Serves as the principal Station Staff Officer on matters pertaining to logistics including those matters relating to equipment maintenance.

b. Coordinates the logistics functions, inclusive of all commodity areas of all Station organizations.

c. Exercise staff cognizance over the Station Maintenance Management Program.

2. Comptroller

a. Serves as the principal Station Staff Officer on matters pertaining to internal control, guidance, and management of appropriated funds.

b. Periodically evaluates direction over budgeting, accounting, and advice on matters pertaining to efficient utilization of appropriated funds.

3. Director of Manpower. Serves as the principal Station Staff Officer pertaining to military personnel management, including the assignment and replacement of maintenance and maintenance management personnel.

#### 4. Director of Training and Education

a. Serves as the principal Station Staff Officer on matters pertaining to training, including equipment maintenance training.

b. Coordinates with the Station MMO and Civilian Personnel Department (CPD) on the training of maintenance and maintenance management personnel.

#### 5. Civilian Personnel Department

a. Serves as a special staff assistant to the Commanding General under the cognizance of the Chief of Staff, with respect to civilian personnel matters.

b. Advises and gives direct assistance in obtaining available training for equipment maintenance personnel for both on-the-job training (OJT) and for off station training classes for updating skills.

c. Provides supervisory training requirements of management and provides advice regarding travel and related funds for civilian employees.

#### 6. Station Adjutant

a. Assists the MMO to ensure correct administrative procedures are used within commodity area directive systems.

b. In conjunction with the MMO, reviews the need for Publications to ensure technical publications, orders, and directives are received by the Station in sufficient quantity to maintain an effective maintenance effort within each commodity area.

#### 7. Ground Safety Officer

a. Serves as a special staff officer to the Commanding General with respect to matters dealing with safety.

b. Coordinates with the MMO on all aspects of equipment maintenance management operations.

#### 8. Station Motor Transport Officer

a. Serves under the staff cognizance of the Director of Facilities, with respect to motor transport matters dealing with garrison mobile equipment.

b. Coordinates with Supply, Comptroller, and Headquarters Marine Corps in the procurement, maintenance, and equipment evaluation of

garrison mobile equipment necessary for the Station and tenant commands to accomplish their missions.

c. Coordinates with the Station MMO on all maintenance management matters.

9. Station Training Audiovisual Support Officer

a. Serves under the cognizance of the Director of Training and Education.

b. Coordinates with Station MMO on all Training Audiovisual Support aspects of equipment maintenance management operations.

10. Station Armory Officer

a. Serves under the direct cognizance of the Commanding Officer, Headquarters and Headquarters Squadron with respect to small arms equipment maintenance management.

b. Responsible for the Station small arms maintenance and calibration to include maintenance of required equipment records.

c. Coordinates with the Station MMO on all aspects of small arms equipment maintenance management operations.

11. Station Maintenance Management Officer (MMO)

a. The Marine Corps Air Station, Cherry Point Maintenance Management Officer (MMO) will be assigned as Special Staff Officer under the cognizance of the Director of Facilities. Assignment of the Station MMO will be made in writing with a copy of the appointing letter retained in the office of the Director of Facilities.

b. Serves as a special staff officer to the Commanding General, under the staff cognizance of the Director of Facilities, on all matters pertaining to organizational and support equipment maintenance management.

c. Advises the Commanding General on all matters related to equipment maintenance and the impact of the Station Maintenance Management effort on equipment readiness.

d. Plans, organizes, and coordinates the utilization of all maintenance activities and resources within the Air Station.

e. Prepares the Air Station Maintenance Management SOP

f. Coordinates with and assists commodity maintenance officers to establish maintenance production and quality control programs and centrally coordinates the Station Quality Deficiency Report (QDR) program.

g. Initiates action to correct or change technical publications in accordance with current directives, ensures that required allowances of currently effective technical publications are on hand and properly distributed, that personnel are trained in their use.

h. Plans and implements assistance visits/inspections for the Commanding General to ensure effectiveness of the maintenance effort.

i. Ensures proper recording and upkeep of maintenance information in maintenance records.

j. Coordinates the overall conduct of the Station's equipment maintenance program.

## 12. Commodity Managers

a. Manage the performance of equipment maintenance operations (to include contracted maintenance) in the commodity to which assigned.

b. Act as the technical advisor to the Commander on all commodity functions.

c. Plan maintenance production (PM and CM) based on the echelon of maintenance authorized and resources available.

d. Schedule, direct, and supervise the care, inspection, and maintenance authorized and resources available.

e. Monitor support and test equipment allowances and ensure that on hand equipment is properly maintained, inventoried, and calibrated.

f. Plan and coordinate a quarterly inspection schedule to ensure effectiveness of the maintenance effort.

g. Initiate action to correct or change technical publications, ensure that required allowance of technical publications are on hand, and cognizant personnel are instructed in their use and maintenance.

h. Ensure all maintenance information is recorded and maintenance resource records are properly maintained.

i. Ensure the training and use of assigned operators, maintenance and supervisory personnel.

j. Coordinate with the appropriate Supply Officer regarding all supply support matters.

k. Supervise daily, weekly, and bi-weekly validations and reconciliations to include daily and weekly internal shop validations, bi-weekly external reconciliations with the IMA, and bi-weekly parts reconciliation with the appropriate Supply.

1. Assist in the organization's budget process by identifying maintenance funding requirements.
  - m. Establish and manage the calibration control procedures and commodity manager's modification records.
  - n. Establish sound maintenance production, preventive maintenance (PM), and quality assurance programs.
  - o. Ensure that maintenance personnel have a valid operator's license pertaining to the equipment requiring maintenance.
  - p. Prepare SOP's for maintenance operations within the commodity.
13. Director of Supply. Serves as a principal Station Staff Officer on matters pertaining to supply support for the equipment maintenance program and coordinates with the MMO and applicable commodity managers on supply support matters. Refer to chapter 3.
14. Station Property Control Officer
- a. Serves under the Facilities Development Department, which is under the cognizance of the Director of Facilities, with respect to Equipment Allowance's establishment and control.
  - b. Coordinates with the Station MMO and commodity managers on Equipment support matters.
  - c. Requisition required technical publications not on automatic distribution.
  - d. Maintain a supply publication library in support of all maintenance and maintenance management functions.
  - e. Chapter 3 applies.

### 1003. STANDING OPERATING PROCEDURES (SOP's)

1. Need for Uniform Procedures. Maintenance and maintenance management SOP's are required to establish policy, assign responsibility for certain tasks, and document standardized procedures to be followed in those areas where standardization is possible. SOP's provide for the orderly accomplishment of assigned tasks and ensure continuity of operations.
2. Requirement for Maintenance SOP's
  - a. Commanders at major subordinate commands (MSC) shall publish maintenance management standing operating procedures (MMSOP's). The instructions contained in the MSC MMSOP need not contain all

subordinate unit functions but they will be sufficiently clear, applicable at the unit level, and detailed to ensure each subordinate unit can perform its maintenance mission.

b. Commanders at subordinate command levels, to include detached or separate commands, authorized second echelon or higher maintenance capability for more than one commodity area shall publish MMSOP's except when maintenance procedures are adequately covered in a MSC MMSOP. In such cases the MSC MMSOP may be used in lieu of a unit MMSOP.

c. Commanders at subordinate command levels, to include detached or separate commands, authorized second echelon or higher maintenance capability for only one commodity area shall publish maintenance management requirements in either a commodity maintenance/unit logistics SOP or a MMSOP except when maintenance procedures are adequately covered in the MSC MMSOP.

d. Commanders at subordinate command levels, to include detached or separate commands, authorized only first echelon maintenance capability for organic equipment shall publish, as a minimum, maintenance management procedures as part of one of the unit's logistics SOP's or in a maintenance policy letter for the unit's commodity areas.

e. Where the maintenance mission of the lower level command requires deviation from or amplification to the MSC MMSOP, clearly defined local written procedures will be included in a unit maintenance policy letter identifying the commander's additional policy guidance. These procedures should also include rationale for why the MSC MMSOP guidance is inappropriate.

f. The MMSOP shall include the procedures necessary for the command to implement the policies and procedures included in this Manual, other Marine Corps directives, and those directives by higher headquarters.

g. Appendix A of the current edition of MCO P4790.2 sets forth the minimum requirements which must be addressed in the maintenance equipment to a supporting maintenance organization aboard the Station, management SOP. The current edition of TM 4700-15/1 lists several areas in Chapter 2 that are optional for units not supported by the FMSS and should be addressed in commodity maintenance/unit logistics SOP, MMSOP, or maintenance policy letter.

h. A current copy of each organization's SOP/policy letter will be forwarded to the Station MMO.

1004. DESKTOP PROCEDURES AND TURNOVER FILES1. Requirement

a. Standing Operating Procedures (SOP's) assign responsibilities for certain tasks and provide guidance for their accomplishment. However, SOP's do not provide the detailed information necessary for day-to-day accomplishment of the tasks. Desk top procedures and turnover files provide the who, what, where, when, why, and how information required to perform the assigned function. Proper use of desktop procedures and turnover files will alleviate the adverse results which are caused by the temporary absence or the transfer of personnel, i.e., lack of expertise and continuity in day-to-day operations.

b. Desktop procedures will be prepared for each billet involving administrative and management functions within the equipment maintenance program, to include:

(1) All personnel tasked with completing the records prescribed by TM 4700-15/1.

(2) Training NCO's.

(3) Technical publications librarians.

(4) All personnel involved in Blanket Purchase Agreements

(5) Shop supply personnel.

(6) Toolroom personnel.

(7) Dispatchers.

(8) Shop shipping and receiving personnel

(9) Quality control inspectors.

c. Turnover files will be maintained by all commodity managers and subordinate supervisory personnel.

d. Desktop procedures/turnover files will be continuously reviewed for completeness and updated as required. The following minimum requirements must be accomplished by commanders or their designated representatives:

(1) All desktop procedures/turnover files will be reviewed and approved as current at least once each twelve months.

(2) When practical, desktop procedures/turnover files for personnel scheduled for transfer/reassignment will be reviewed and certified as current within 30 days prior to the transfer/reassignment.

(3) The review should be documented as matter of record within the Desktop Procedures (DTP'S)/Turnover File (TOF's) by the individual and supervisor. A record of review page will be standard in all DTP's/TOF's (Figure 1-1).

e. SOP's will specify billets for which desktop procedures and turnover files are required.

## 2. items to be Included in Desktop Procedures

a. Job assignment.

b. List of current reference material pertaining to the assigned functions.

c. Procedures for carrying out required duties.

d. Telephone numbers of individuals who might need to be contacted.

e. Reports required

f. Examples of properly completed forms used in assigned function, to include block by block descriptions in accordance with local SOP.

## 3. Items to be Included in Turnover Files

a. Title of billet.

b. Primary and collateral duties.

c. To whom the individual occupying the billet reports to and incumbent billets subordinate thereto.

d. Mission of the billet (broad billet responsibilities)

e. Functions involved in accomplishing the mission (principal action taken).

f. Location and list of current SOP's and inspection checklists and previous inspection reports and results.

g. Tasks and basic operations regularly performed in accomplishing specific functions.

h. List of required reading.

i. Publications and directives which are pertinent to the billet

j. Tables of Organization (T/O's).

k. List of required reports and dates of submission, to include letters of authorization.

l. Relationship with activities both in and outside the official chain of command, including official liaison and coordinating functions. Brief statement concerning the type of matters on which these agencies are consulted.

m. Personnel contacts within or outside the command, listing telephone numbers and addresses. The purpose served by contact will be included.

n. Miscellaneous information should be included, e.g., administrative or operational procedures peculiar to the billet, such as dual responsibility or authority within particular functions.

o. Short resumes of past projects considered unusually important, a status report of each project, and a brief outline of future projects.

MAINTENANCE MANAGEMENT SOF

UNIT HEADING

4790  
ID  
DATE

From: Communication Officer  
To: Individual Concerned

Subj: DESKTOP PROCEDURES/TURNOVER FILE

Ref: (a) MCO P4790.1  
(b) AirStaO P4790.1  
(c) Unit Comm SOP

1. Purpose. To establish the policies and procedures for the management of communications within this platoon in accordance with the references.

2. Changes

a. You are directed to review and implement the procedures outlined in the references.

b. Changes will be made to this Desktop/Turnover File whenever deemed necessary and all responsible personnel will be notified.

3. Recommendations. Recommendations concerning this desktop procedures/turnover file are invited. Submit recommended changes to me.

4. Review. These procedures are subject to my review annually. Such review is annotated below.

-----  
DATE/NAME

-----  
DATE/NAME

-----  
DATE/NAME

1. M. BOSS

MAINTENANCE MANAGEMENT SOP

CHAPTER 2

MAINTENANCE OPERATIONS

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# MAINTENANCE MANAGEMENT SOP

## CHAPTER 2

### MAINTENANCE OPERATIONS

#### 2000. MAINTENANCE POLICY

1. The maintenance management policies and procedures of this command **are** in consonance with directives of higher headquarters.
2. Units shall accomplish required maintenance on assigned equipment within authorized echelons of maintenance in accordance with applicable orders and technical publications. Maintenance efforts will be organized with the goal of maintaining the maximum amount of equipment in a ready status.
3. Equipment requiring maintenance beyond the organizational echelon of maintenance shall be evacuated to the supporting maintenance facility expeditiously.
4. Maintenance Echelons
  - a. First Echelon Maintenance. First echelon maintenance is performed by the user or operator of the equipment. It includes the proper care, use, operation, cleaning, preservation, lubrication, minor repair, adjustment, testing, and parts replacement as may be prescribed by pertinent technical publications and tools/parts allowances.
  - b. Second Echelon Maintenance. Second echelon maintenance **is** that work performed by specially trained personnel in the organization. Appropriate publications authorize second echelon maintenance, additional tools, necessary parts, supplies, test equipment, and skilled personnel to perform maintenance beyond the capabilities and facilities of the first echelon.
  - c. Third Echelon Maintenance. Third echelon maintenance is that authorized by appropriate publications to be performed by specially trained units in direct support of one or **more** using organizations. However, third echelon maintenance may be performed by organic maintenance units within the using organization in specially authorized cases. Third echelon maintenance is authorized a **larger** assortment of parts, sub-assemblies, assemblies, and more precise tools and test equipment than is provided to using organizations. Organizations authorized to perform third echelon maintenance actions may repair subassemblies, assemblies, and the overflow from the lower echelons within limits imposed by special authorization of tools, parts, and test equipment.. They also support the lower echelons by providing technical assistance, mobile repair crews, and repair parts, when necessary.
  - d. Fourth Echelon Maintenance. Fourth echelon maintenance is performed by units organized as semi-fixed or permanent shops to serve lower maintenance echelons within a geographical area. Fourth echelon

maintenance activities are authorized a larger assortment of assemblies, subassemblies, parts, additional and more precise tools, and test equipment than is provided to lower echelons. Organizations authorized to perform fourth echelon maintenance may furnish maintenance contact teams or reinforcing elements to lower echelons, when required. The principal function of fourth echelon maintenance is to repair major items, assemblies, and subassemblies for return to the lower echelons or the supply system.

e. Fifth Echelon (Depot Maintenance). Depot maintenance is performed on material requiring major overhaul or complete rebuild of assemblies, subassemblies, end items or parts including the manufacture of parts, modifications, testing, and reclamation, as required. Depot maintenance serves to support lower categories of maintenance by providing technical assistance and performing maintenance beyond their responsibility. Depot maintenance provides stocks of serviceable equipment by using more extensive repair facilities than are available in lower level maintenance activities. Fifth echelon maintenance, synonymous with depot maintenance, is the maintenance authorized for rebuilding major items, assemblies, parts, accessories, tools, and test equipment. It normally supports supply on a scheduled rebuild and return to stock basis. Fifth echelon operations are scheduled to employ production and assembly line methods whenever practicable.

f. Authority to perform maintenance and at what level is contained in each unit's Table of Organization (T/O). Authority to exceed the authorized EOM will be submitted to this headquarters (Director of Facilities). The authority may be granted for a limited period not to exceed six months. Requests for T/O changes are governed by MCO P5311.1 and should be coordinated with the Director of Manpower.

5. The maintenance process and the relationship of maintenance production to information flow as it pertains to equipment status reporting will be standard among all Station organizations performing 2nd echelon or higher maintenance. Appendix F, of MCO P4790.2, will be used as standard procedure for shop supervision/commodity managers.

6. A detailed inspection of equipment entered into the maintenance cycle, and requisition of repair parts and components shall be accomplished within 2 working days from the date the equipment is identified as requiring repairs.

7. Shop Maintenance SOP's will address the maintenance phases and ensure that the functions outlined in paragraph 3001 of MCO P4790.2 are accomplished.

8. Commanders and Staff Officers are responsible for their maintenance programs to include preventive maintenance, corrective maintenance, modification of equipment, calibration, and limited technical inspections.

## 2001. ASSIGNMENT OF OPERATORS

1. A specific operator/crew will be assigned to principal end items (PEI's) of equipment for the performance of operator maintenance on such equipment. Where necessary, operators may be assigned responsibility for more than one piece of equipment to accomplish this requirement. Commodity managers will maintain a list of all equipment assigned to operators. When responsibility for equipment cannot be assigned to a specific operator, the organizational commander must consider placing the equipment on administrative deadline. Additional information on administrative deadline is contained in MCO P4790.2.
2. Operators will conduct first echelon maintenance on the equipment they are assigned to operate.
3. Operators may operate other than assigned equipment only with the permission of the unit commander, commodity officer, or shop chief. This practice is discouraged and will only occur when the assigned operator is not available. The officer/SNCO granting permission will ensure the operator maintenance responsibilities are clearly delineated.
4. Commanders and commodity managers are to ensure that assigned operators are properly trained and possess a valid license.

## 2002. ALLOCATION OF MAINTENANCE TRAINING/PERFORMANCE TIME

1. Equipment maintenance as well as technical operator and maintenance Supervisor training will receive emphasis equal to that given to operations and training.
2. Before, during, and after periods of operations or training, commanders will ensure that adequate time is allocated for completion of required equipment maintenance.
3. Scheduled maintenance services (preventive maintenance) will be performed per the appropriate directives and under the control/supervision of qualified personnel.
4. Commanders and commodity supervisors are responsible for the execution of scheduled maintenance] to include a physical modification check of the equipment, record jacket, SL 1-2, modification control records, and TI-5600 series publications.
5. Staff sections which provide support to and/or are tasked with accomplishing specific station functions such as Motor Transport, Comm-Elect, TAVSC, Telephone, must ensure that the work day/week is scheduled to permit adequate time for operator maintenance of the equipment.

2003. SHOP OPERATIONS

1. Shop operations are actions taken to manage maintenance and supply activities and to control the resources provided to accomplish the unit's mission. Each commander and commodity officer is required to establish an effective shop operation, to include systematic forecasting and scheduling of equipment maintenance, orderly work flow, safety, and a functional quality control program. Appendices E, F, and G of MCO P4790.2 provide amplifying guidance for shop supervisors.
2. All areas where maintenance actions will be performed shall be designated in the SOP.
- \* 3. Commanders and commodity officers will assign in writing the title, authority, and responsibilities of key personnel as follows:
  - a. Commodity Officer
  - b. Commodity Chief.
  - c. Maintenance Officer.
  - d. Maintenance Chief.
  - e. Publications Clerk.
  - f. Layette Bin Clerk.
  - g. Modifications Clerk.
  - h. Records Clerk
  - i. Toolroom NCO.
  - j. Calibration Clerk.
4. The above letters or orders will be maintained in the designated personnel's turnover folder.
5. All maintenance elements will be so organized that maintenance teams are composed of inexperienced personnel working with skilled personnel during active maintenance.
6. Use of the priority system and personnel authorized to sign specific priorities is contained in MCO P4400.16.
7. The following procedures will be used for changing priorities on ERO's:
  - a. Whenever an ERO priority must be upgraded, the next higher authority must sign the upgraded ERO. Procedures for upgrading ERO priorities are contained in TM-4700-15/1. The category code of the ERO

may have to be upgraded also. The priority of critical parts and/or maintenance will be in consonance with the ERO priority.

b. An ERO priority will be downgraded whenever the priority of maintenance and parts is less than ERO priority. The category code of the ERO may have to be downgraded.

8. Recommend that only one category code "N" ERO per end item be opened at one time. Upgrading and downgrading of category codes will be in consonance with the priority. Use of category code "M" and "X" ERO's is restricted to use by FMF units.

9. Commanders must ensure that the provisions of paragraph 4003.1 of this Order are set forth as a mandatory policy during the active maintenance phase.

#### **2004. EQUIPMENT THAT EXCEEDS MAINTENANCE CAPABILITIES**

1. Equipment that exceeds a unit's capabilities or authorized echelon of maintenance stated in the mission statement on the cover page of the unit's T/O will be evacuated to the nearest supporting maintenance facility. All maintenance authorized by the unit will be performed prior to evacuation to the supporting maintenance facility. Missing components, accessories, and assemblies may be listed on the ERO showing the NSN and valid document number of the missing items. Units requesting maintenance support from the IMA will prepare letters of authorization to sign ERO's (Figure 2-1) and provide a list of personnel authorized to receipt for material and equipment from the IMA (Figure 2-2). These letters will be updated on an annual basis or as changes occur, whichever occurs first.

2. The evacuated equipment will be accompanied with the supporting equipment documents, i.e., Record Jacket, ERO filled out properly, and with a reimbursable JON in the appropriate blocks (63 - 76 on line 3 of the ERO).

3. Maintenance of commercial equipment shall be in accordance with the manufacturer's procedures. In case of conflict with this SOP, the manufacturer's procedures shall apply. Unit capabilities to repair assigned commercial equipment shall be evaluated by the responsible commander in terms of personnel, test equipment, tools, and facilities assigned. Commercial maintenance service contracts may be used to support assigned commercial equipment.

4. When responsibility of a piece of equipment cannot be adequately assigned an operator or is level "A" packed, that equipment is administratively deadlined. This equipment should be identified and tagged accordingly. The equipment will not be **used** without the consent of the Organizational Commander since the organization is attempting to conserve equipment and maintenance resources. Requests for placing equipment into a level "A" pack status are to be submitted to this

headquarters (Director of Facilities) for approval. Preventive maintenance requirements/intervals for equipment administratively deadlined are contained in Chapter 3 of MCO F4790.2.

## 2005. PERFORMANCE OF MAINTENANCE SERVICES

1. Preventive Maintenance (PM) will be scheduled and is the responsibility of commanders, commodity officers, users, and/or operators. Adequate time must be allocated within the training schedule or commitment to complete scheduled maintenance services.

2. First echelon PM's are the responsibility of the assigned operator under the supervision of the commander and/or commodity manager. The foundation of the preventive maintenance program is the operator on the lowest level of maintenance. No one is more familiar with equipment than the individual who uses it. With proper command guidance, indoctrination, and supervision, the operator can materially reduce the deadline rate by using proper procedures in the care and use of the equipment. Command attention and supervision by supervisory personnel at all levels is required to ensure that proper first echelon maintenance procedures are in effect.

3. Second echelon and above PM's are the responsibility of the trained mechanic or technician under the supervision of the maintenance officer. Accomplishment of required PM's is the responsibility of the organization to which the equipment is assigned. Accordingly, organizational SOP's will establish policies and procedures for that organization's preventive maintenance program. In this regard, Chapter 3 of MCO F4790.2 provides specific guidance for the conduct of preventive maintenance as follows:

a. All required PM services shall be performed, if practical, prior to evacuating the equipment to a higher echelon for maintenance. Common sense and good judgement may indicate, however, that certain PM requirements be omitted if the corrective maintenance action duplicates or negates the effect of PM. For example, it is unnecessary to change oil in a vehicle prior to evacuation, when it is obvious the engine will either be replaced or the oil will be removed in the corrective maintenance process.

b. PM services coming due on equipment which has been evacuated for higher echelon maintenance remains the responsibility of the owning organization. Accomplishment will be coordinated with the supporting maintenance activity. PM services will be completed as far as is possible without interfering with the required corrective maintenance. Again, common sense and good judgement will be used to preclude the accomplishment of unnecessary PM functions.

4. PM's will be conducted per the current technical manuals and lubrication orders applicable to the specific equipment. Maintenance intervals are specified in the above publications. These PM services

are generally cyclic in nature (calendar, mileage, rounds fired, or hours of operation basis). Therefore, they must be scheduled on a periodic basis. This achieves a systematic inspection, detection, and correction cycle that prevents potential failures either before they occur or before they develop into major defects. If the instructions in the technical publications conflict with those of the manufacturer, the manufacturer's instructions will be complied with to preclude invalidating any available warranty.

5. A systematic PM program will ensure a high equipment readiness program. The responsibility of PM services rests with the commander and is one of the most important factors in the organization's maintenance program. Preventive maintenance is one of the most difficult responsibilities of command. Because the end results of PM services are not obvious, PM schedules are sometimes neglected or omitted.. Frequent command inspections are encouraged. Enthusiasm is contagious. By evidencing an interest in the condition of equipment, supervisory personnel can influence the operators and technicians/mechanics in their maintenance efforts.

6. Commanders are authorized to vary the frequency of scheduled PM services when climatic conditions, operational commitments, or additional factors warrant variation of the frequency of established PM schedules. Any variation of PM Scheduled must be documented with sufficient justification. If equipment is placed in administrative storage, placed on administrative deadline, or equipment has low usage, preventive maintenance services may be deferred or intervals extended. The individual authorized to defer maintenance services, the criteria, and PM requirements are contained in MCO P4790.2 (Figure 3-3).

7. When equipment technical manuals do not establish a definite PM frequency for the end item, the commodity manager will establish a PM schedule per MCO P4790.2. The interval will not be greater than semiannually.

8. Corrective Maintenance (CM) will be performed by the authorized echelon of maintenance as established by the T/O. Commodities will not requisition parts that exceed their authorized echelon of maintenance as established in the SL-4's/parts manuals, The Source Maintenance Recoverability (SMR) code specifies which parts may be installed at the organizational level.

9. The maintenance emphasis of the equipment holder or **user** is the proper performance of PM's. This will contribute both to operational readiness and to a corresponding reduction of all other maintenance services. The supporting maintenance activities requirements compliment the user's maintenance. The commodities maintenance is primarily directed at correcting equipment malfunctions. This relationship and emphasis cannot be over stressed.

10. Commander's will combine the use and efficiency of all maintenance resources available, and monitor maintenance requirements of

subordinates. As a last resort, overflow maintenance may be requested from the next higher level of maintenance support. Requests for overflow maintenance should be routed through the chain of command.

11. Adequate time following operational training commitments will be scheduled to perform FM and CM. This maintenance may be performed concurrently with training requirements.

\*12. Equipment requiring calibration services will be evacuated to Test Equipment Control Branch, Comm-Elec Division; Naval Aviation Depot or a commercial vendor as appropriate, with the exception of EOD and the armory who will utilize Albany.

13. Modifications will be performed by the authorized echelon of maintenance.

#### 14. Contact Team Maintenance

a. There are times when it is not practical or possible to deliver equipment requiring repair to the supporting maintenance organization. Such is the case when equipment is permanently installed in a fixed location or when a quantity of the type of equipment in an organization requires the accomplishment of the same maintenance action such as modification. In such cases, it is more practical to provide maintenance support at the equipment location by use of contact team.

b. Contact teams will be task organized to provide the support required. It may consist of one or more persons equipped with the necessary test equipment and/or tools required to accomplish the specific task requested.

c. The decision to utilize a contact team will be made by the head of the supporting maintenance organization after considering such factors as transportation costs, the feasibility of moving the equipment, work space in the shop, and the specific situation. Requests for a contact team will be made to the commander of the supporting maintenance organization in writing. Documentation (use of an ERO) is required where the support is provided.

15. Chapter 3 of MCO P4790.2 provides additional policy information of great value concerning maintenance services and procedures. Maintenance supervisors are strongly encouraged to read this chapter in its entirety.

## 2006. RECORDS

### 1. General

a. Proper record keeping procedures cannot be over emphasized. The maintenance records document actual services performed. Quality control and supervision is required to ensure that maintenance services

were actually performed as indicated to ensure the safe operation of equipment. In the event that the equipment is transferred, the equipment record jacket is the sole source of equipment maintenance documentation.

b. Accurate equipment records are the responsibility of everyone in the chain of command, from the Unit Commander to the operator. Record jackets will be maintained per TM 4700-15/1 and appropriate technical manuals. Additionally, safety messages will be included in each record jacket. Commodity officers will ensure that those messages are retained in the record jackets.

c. The commodity officers will be required to maintain, prepare, care for and handle all maintenance records. Maintenance records will not be given to the user. When equipment is temporarily loaned or issued, a temporary record jacket will be reproduced for the using unit. The original record jacket will leave the commodity shop intermediate maintenance services or when the equipment has been permanently transferred from the organization to another.

## 2. Record Types

a. Maintenance Records. Maintenance records are maintained to provide a history of equipment maintenance requirements, to ensure the performance of required preventive maintenance, and to facilitate management decisions. Maintenance records are further classified as equipment records or maintenance resource records.

b. Equipment Records. Records required by the current edition of TM 4700-15/1 will be maintained on equipment held by Station organizations. Records for equipment for which no records are specified in TM 4700-15/1 will be maintained in accordance with other applicable Marine Corps directives or in the case of commercial equipment, in accordance with the manufacturer's instructions. If no Marine Corps requirement exists, commanders will establish records that require the accomplishment of preventive maintenance. Entries in equipment records will be made at the time of maintenance action by the individual performing the action. Commanders will establish procedures to ensure that individual equipment records reflect all maintenance actions performed by the owning or the supporting maintenance activity.

c. Maintenance Resource Records. Maintenance resource records are those maintained in conjunction with individual resources. For example, completion of technical schools is recorded in an individual's service record. Maintenance expenditures are recorded in maintenance documents (e.g., the SRO or ERO) and requisitions related to equipment maintenance in supply records. Duplicate records maintained elsewhere within the unit will be held to the minimum required for effective management.

(1) Use of Equipment Repair Order (ERO)

\* (a) An ERO, NAVMC 10245, will be used by the following commodities: Armory, TAVSC, EOD, and CFR.

(b) All entries on the ERO will be completed in accordance with TM 4700-15/1. Organizational commanders desiring to use entries which are reflected as optional for non Field Maintenance Subsystem (FMSS) users will indicate the specific entries required in the unit's maintenance SOP.

(2) Use of the Shop Repair Order (SRO)

(a) A SRO, NAVMC 9-11200/3A, will be used by the following equipment commodities: engineer garrison mobile equipment (GME), automotive GME, and material handling GME.

(b) A SRO will also be opened when maintenance is performed on nonappropriated funds equipment (Special Services, Marine Corps Exchange, or Club systems equipment) and on Resident Officer-in-Charge of Construction's (ROICC) equipment.

(c) All entries on the SRO will be completed in accordance with TM 4700-15/1.

(3) Use of the Equipment Repair Order Shopping List (EROSL)

(a) The EROSL (NAVMC 10925) is designed to be used in conjunction with the ERO to requisition, receipt for, cancel, record partial issues and credits of repair parts, and secondary repairables associated with ground equipment undergoing repair. The EROSL has been designated primarily for units supported by the FMSS.

(b) Use of the EROSL is optional for units not supported by the FMSS. If local forms (DD 1348.1) are used in lieu of the EROSL, disposition instructions will remain the same as for the EROSL.

(c) Those organizations, not supported by the FMSS, using the EROSL will use only the "4" card (Parts Requisition). Instructions for completion of the EROSL are contained on the template, which is attached to the EROSL pad and in TM 4700-15/1. The EROSL will be completed as outlined in TM 4700-15/1.

(d) Though the EROSL may not be the control (i.e., DD 1348-1, etc.) document for the actual requisitioning of repair parts, the organization's maintenance and supply sections may use it as an effective management tool during the internal validation and reconciliation described in Chapter 3 of MCO P4790.2.

d. Local Records. Local records are those maintained by a unit in addition to those required by higher authority. Since the maintenance of any record requires the expenditure of personnel resources, the use

of local records shall be kept to a minimum necessary to satisfy definite information requirements of the unit. Such records will be established only when it can be demonstrated that a unit record would be beneficial to other activities. Organizational commanders shall submit copies of all forms used and an explanation of the record keeping system/requirement to the Station MMO for review. Local records are not authorized when Marine Corps standard records that do the job are available.

e. Records Review. Commodity supervisors will periodically, not less than semi-annually, review all records being maintained to ensure that a requirement exists for their continued use. Particular attention should be given to local records. Recommendations for improvements to records required by higher authority will be submitted through the chain of command to the requiring activity. Recommendations submitted to Headquarters Marine Corps shall be submitted via the Commanding General (Director of Facilities, (MMO)).

f. Records Responsibilities. Organizational maintenance SOP'S must designate the types of records required for the organization and the responsibility for the preparation, care, and handling of maintenance records, by billet.

## 2007. REPORTS

1. Maintenance reports provide data and information for use in determining policy; planning, controlling, and evaluating operations and performance; and preparing reports for higher authority. Format and frequency of reports are determined by the specific requirements of the requiring organization.
2. Commanders will ensure that local reports are required only to meet definite requirements, that they are economically designed, that the information cannot be obtained from an existing report, and that they are cancelled when no longer justified.
3. Organizational SOP's will address those reports required by higher headquarters and specify the responsibility by section or billet for report preparation. Within maintenance management, reports required by higher headquarters are found in various directives. Most often they are required in maintenance-related programs as discussed in chapter 8 of this Manual. Moreover, reporting requirements within maintenance management and related programs are not always on a scheduled basis; consequently, this type of report is often overlooked,
4. Recommendations for improving reports will be submitted via the chain of command to the Headquarters requiring the report. All recommendations concerning reports required will be submitted via the Commanding General (Director of Facilities (MMO)).

2008. MODIFICATION OF EQUIPMENT

1. The current editions of MCO P4790.2 and MCO P4400.84 requires each section/unit which is accountable for equipment, regardless of the echelon of maintenance authorized, to establish a modification control program. Accordingly, the following policies and procedures are set forth for Station organizations:

a. Establish a modification control point by billet in the organization's maintenance SOP and outline its responsibilities

b. Establish a modification control program per MCO P4790.2 (this information should be reproduced and provided to the commodity modification control point for use in desktop procedures).

c. Maintain modification control records per TM 4700-15/1.

\* d. Notify the Station MMO by phone of all completed MI's.

e. Quarterly, as the new SL 1-2 is published or upon receipt of an applicable TI 5600 series publications, update the commodity managers modification control records with all applicable MI's.

2. Equipment modification consists of those maintenance actions performed on equipment to change the design or characteristics in order to improve the equipment's functioning, maintainability, reliability, and/or safety characteristics.

3. Modification of Marine Corps equipment will be accomplished only when directed by the Commandant of the Marine Corps. Authority and direction to modify Marine Corps equipment is contained in Modification Instructions (MI's). Modification Instructions are classified as "Urgent" or "Normal" as follows:

a. Urgent - A modification required to prevent death or serious injury to personnel, prevent damage to equipment, or to make changes that are considered so essential that their accomplishment must be completed at the earliest possible time. Urgent MI's may specify a required completion in the time compliance paragraph or may specify upon receipt date and may restrict the operation of unmodified equipment.

b. Normal - All other modifications. Normal modifications must be completed within one year of the effective date of the MI and are normally accomplished within a planned/scheduled basis.

c. Kits or material required for applying a modification should be requisitioned in accordance with the current edition of UM 4400-15, using Demand Code "N" (nonrecurring demand). Requisitions received by MCLB, Albany, within 12 months from the effective date of the MI will be filled on a "free issue" basis. Requisitions received after the

12-month period will be filled on a free-issue basis only if the kits and material which were initially procured to support the MI are in stock. Upon depletion of material stocks initially procured for equipment in use or after the 12-month free-issue period, whichever occurs last, requisitions will be rejected with Status Code ME, and the components of the modification kit (MCO P4400.84).

4. The owning organization is responsible for ensuring that all modifications required on equipment are accomplished and properly recorded in equipment records.

5. Equipment requiring modifications that exceed the maintenance capability of the owning organization will be reported to the supporting maintenance organization, if capable of performing the modification will determine the total requirement for all supported units, obtain the required parts/material, and establish a schedule for the accomplishment of the modification.

6. Equipment modification will be accomplished in conjunction with preventive or corrective maintenance whenever possible. For example, normal modification should be performed at the next scheduled quarterly preventive maintenance or during corrective maintenance.

7. Garrison Mobile Equipment (GME) Modification Control. All tactical configured equipment held as substitute items will be considered commercial (G-TAM). The Station MMO may authorize modification of garrison mobile equipment on an as required basis when such modification to the equipment is of a temporary nature and the intent is the eventual return to the basic design of the vehicle. With the exception of fire fighting apparatus (FFA) and crash fire rescue (CFR) equipment, modification, modernization, or alteration of GME can be performed without prior approval of HQMC as long as the equipment code will not need to be changed as a result. These types of modifications do not require any record entries other than a SRO. Request for approval of modifications to FFA and CFR equipment and modifications which necessitate an equipment code change shall be submitted to CMC (LFS-2) via the Commanding General, Director of Facilities (MTO). Each request shall include justification, vehicle description, Marine Corps registration number, and the estimated cost. The current edition of MCO P11240.106 provides additional information.

## 2009. SUPPORT AND TEST EQUIPMENT

### 1. General

a. Calibration is the process by which a standard, test, or measuring instrument is compared to a standard of higher accuracy and adjusted to assure that the instrument being tested meets specifications approved by the Marine Corps. The Marine Corps Calibration Program is described in MCO P4790.2 and MCO 4733.1 and amplified in TI 4733 series publications.

b. Test Measuring and diagnostic equipment used in the maintenance of other Marine Corps equipment must be periodically calibrated to ensure that repairs are properly accomplished and/or the accuracy of the repaired item. The calibration process is a continuing effort applicable to all commodity areas and technical fields test and measuring equipment.

## 2. Definitions

a. Test, Measuring, and Diagnostic Equipment (TMDE). Test, measuring, and diagnostic equipment includes all electrical and electronic test instruments, radiac instruments, mechanical instruments, mechanics tools and equipment, ordnance gauges and instruments, engine analyzers, and any other item of equipment used to test equipment, measure equipment parameters, or diagnose equipment faults. .

b. Full Calibration. A classification assigned to those items which must be accurate across their full range of measurements.

c. Calibration Not Required (CNR). A classification assigned to items not requiring calibration due to:

(1) Item is listed in current calibration manuals/directives as CNR.

(2) An administrative decision, made by the commander, that the item is used for qualitative (relative) measurements only.

d. Inactive Calibration. A classification assigned to items not in current use which are not calibrated to conserve fiscal resources. Items bearing an inactive sticker must be calibrated prior to being used.

e. Rejected Calibration. A classification assigned to test or measuring equipment that has been returned to the user uncalibrated because it fails to meet the acceptance standards of the calibration laboratory. Such equipment may require corrective maintenance or the replacement of accessories prior to calibration.

f. Special Calibration. Formerly referred to as "Limited Calibration", this classification is used for equipment which is not calibrated over its entire range of operation. Examples are: torque wrenches which are calibrated for clockwise operation only, meters or signal generators which are calibrated on one or a portion of the scales (ranges) available.

g. Quantitative Measurement. The performance of accurate measurements at a specific value within established tolerances. A measuring device used for quantitative measurements do require calibration.

h. Qualitative Measurement. The performance of measurements at general values with broad or not tolerance specified. Meters used to determine the presence of a voltage, where the exact measurement is not desired, are being used for qualitative measurement. Items used for qualitative measurement do not require calibration.

\*3. Calibration Control. Each commodity will establish a calibration control program and coordinate the calibration control effort as follows:

a. Establish a calibration control system as outlined in the current edition of TM 4700-15/1, utilizing Calibration Control Cards

b. Annually, evaluate all TMDE to include "CNR" and "Inactive" held at calibration control points to ensure that it is in the correct calibration category consistent with its function and to determine if an item is required/not required.

c. Coordinate with the supporting calibration facility on those items for which commodity managers cannot determine calibration requirements.

d. Identify all Test, Measuring, and Diagnostic Equipment (TMDE) within the unit, including individual items and those items which are part of chests, sets, and kits. When a tool set does not require calibration, an item within the set, which does require calibration, may be overlooked. Normally, Marine Corps equipment with an Operational Test Code (OTC) of 3 on the Marine Corps Management Data List (ML-MC) will require calibration. Similar commercial equipment will also normally require calibration. Commercial equipment and some Marine Corps equipment requiring calibration will not be so identified in the ML-MC. This information is provided only for assistance in identifying calibration requirements. The calibration facility is the final local authority to determine calibration requirements and intervals.

e. Submit for calibration all TMDE that has been purchased new, received from another organization without a current label, on regular recall, or removed from inactive status.

f. Request special calibration for TMDE that has been purchased new, received from another organization without a current label, on regular recall, or removed from inactive status.

g. Request "inactive" labels from the calibration lab for TMDE not expected to be used during the full calibration cycle.

h. Request "calibration not required" labels from the calibration lab for those instruments which are used for other than quality measurements and, therefore, the accuracy of the measurement is not a factor and no IPM is due.

- i. Ensure current labels are affixed to all TMDE.
- j. Establish a calibration control point within the maintenance shop.
- k. Upon return of TMDE from calibration, the calibration control point must update the card with the calibration due date from the label on the equipment and notify (telephonically) the unit/section with the following information:
  - (1) The date calibrated.
  - (2) The next due date
- l. Annually, during the month of October, perform an inventory of all TMDE available in the organization. Special care must be exercised in this inventory to ensure that test and measuring equipment which are components of other end items, such as tool kits or chest, are included. Concurrent with this inventory, the commander will determine the calibration requirement, i.e., full calibration, special, calibration not required, inactive, for each item possessed. Maximum use will be made of the calibration not required, inactive, and special calibration classifications.
- m. Maintain a list updated at least annually of all TMDE by type, quantity, and location.
- \* n. When TMDE is evacuated for calibration a copy of the applicable evacuation document i.e., meter card, ERO, or message will be maintained on file.

## 2010. SAFETY

1. Commanders are responsible for the prevention of accidents involving personnel, equipment, and property within their organization. They will incorporate safe practices into all operations and will initiate corrective action to eliminate safety hazards. Supervisory personnel at all levels shall ensure that all personnel in their charge are instructed in safe measures applicable to their respective areas of operation and that all safety regulations are strictly observed and enforced.
2. The Station Safety Officer is responsible for the establishment and function of the Command's safety program. The unit's Safety Officer, acting in conjunction with the Station Safety Officer, MMO, and the maintenance officers, will ensure safe practices and procedures are developed and followed in all maintenance operations.
3. Standing operating procedures for safety within this command are set forth in ABO P5100.8. The Marine Corps Safety Program is

established by MCO 5100.8. A comprehensive treatment of safety precautions is contained in NAVMAT P5100.

4. General Safety Precautions Applicable to All Maintenance Areas

a. All maintenance areas shall be continuously inspected for safety hazards and good housekeeping.

b. Personnel shall immediately report all potential hazardous situations to their immediate maintenance supervisors.

c. Horseplay shall not be allowed within any maintenance facility.

d. All equipment shall be operated in accordance with existing regulations.

e. Only authorized cleaning agents will be used for cleaning. Gasoline is not authorized for cleaning.

f. Fire bills, fire alarms, fire extinguishers, and fire status assignments shall be clearly marked. The "fire" and "medical" emergency telephone numbers shall be posted near each fire station and telephone location.

g. Spilled POL shall be cleaned up immediately.

h. All working areas shall be constantly policed and kept free of debris.

i. Tools shall be properly stored when not in use.

j. Shop areas shall be well ventilated.

k. Personnel shall wear appropriate safety equipment at all times. This equipment includes, but is not limited to: Safety shoes, eye shields, ear protectors, gloves, and protective suits.

l. While performing maintenance, personnel shall not wear loose-fitting clothing or jewelry. When working with electrical sources, no metal, jewelry, or **dog** tags will be worn.

m. All tools shall be used properly and only in jobs for which they are designed.

n. Handles shall be kept secure and mushroomed or burred heads shall be dressed down on hammers, chisels, etc.

o. Sharp tools shall be stored in a safe place when not in use.

p. When using tools, the working force shall be applied in a direction away from the body.

5. The preservation of human life and government property is of primary interest to this Command. It is not sufficient to treat personnel after they have been injured or to reclaim/rebuild damaged property. Safety consciousness cannot be assumed; it must be developed. Supervisory personnel must continually strive to identify and impress upon their personnel the dangers inherent in their particular MOS, as well as their prevention and cure. Personnel must be trained to provide immediate and appropriate first aid in the event of an accident.

6. Load testing, as required by MCO P11240.106, will be accomplished by all station organizations.

#### 2011. RECOGNITION OF PERFORMANCE

1. The maintenance management program will be a success only if trained, motivated maintenance personnel are available. Commodity managers will continually review the quality of the personnel assigned and take corrective/commendatory action as required.

2. Supervisors at all levels will provide on-the-spot corrections and training where evaluation indicates less than adequate performance. Disciplinary action will be initiated where appropriate, such as when negligence, indifference, or a lackadaisical attitude is detected,

3. Often our attention is focused on the substandard performer. This is particularly true among individuals performing in support billets who are often only noticed when something goes wrong. Commodity managers are encouraged to officially recognize superior performers whenever warranted.

4. It is the responsibility of all supervisory personnel to recommend personnel for awards, promotions, meritorious mast: , and any other recognition of superior performance. Recognition of outstanding performance is the most effective motivating factor the commodity manager has. The recognition of personnel leads to a high state of morale and produces a better working environment for maintenance personnel.

#### 2012. COMMODITY PERSONNEL ASSIGNMENTS

1. The commodity's T/O serves as the basic management tool for personnel assignments within the command. The T/O concept is not inflexible; however, military personnel assigned critical MOS's will not be assigned outside their MOS's per MCO P1200.7.

2. Commanders and Staff Officers in conjunction with appropriate Personnel Officers are responsible for ensuring personnel misassignments are strictly controlled and do not have an adverse impact on maintenance and operations.

MAINTENANCE MANAGEMENT SOP

UNIT HEADING

4790  
ID  
(Date)

From: Commanding Officer/Directorate  
To: Commanding Officer, 2d Maintenance Battalion, 2d Force Service Support Group, Camp Lejeune

Sub: : AUTHORIZATION TO SIGN EQUIPMENT REPAIR ORDERS (ERO'S) NAVMC 10245'S and EQUIPMENT REPAIR ORDER SHOPPING LISTS, (EROSL'S) NAVMC 10925'S

Ref: (a) AirSta0 P4790.1  
(b) FSSGO P4790.4

1. Per the references, the following personnel are authorized to sign Equipment, Repair Orders (ERO's), NAVMC 10245's and Equipment Repair Order Shopping Lists (EROSL's), NAVMC 10925's:

a. Personnel authorized to sign priority 14 thru 07 ERO's:

<u>NAME</u>	<u>GRADE</u>	<u>BILLET</u>	<u>SAMPLE SIGNATURE</u>
Commanding Officer Directorate			

b. Personnel delegated the authority to sign priority 07 parts requisitions (EROSL's), NAVMC 10925'2, once the supporting Equipment Repair Order (ERO), NAVMC 10245, has been authorized by the Commanding Officer/Directorate:

<u>NAME</u>	<u>GRADE</u>	<u>BILLET</u>	<u>SAMPLE SIGNATURE</u>
Officer in Charge Commodity Manager			

c. Personnel authorized to sign priority 14 thru 09 (ERO's), NAVMC 10245's and (EROSL's). NAVMC 10925's:

<u>NAME</u>	<u>GRADE</u>	<u>BILLET</u>	<u>SAMPLE SIGNATURE</u>

2. This letter supersedes the previous letter of authorization dated,

\_\_\_\_\_

/s/ \_\_\_\_\_  
Commanding Officer

Figure 2-1 -- Sample format, of letter of authorized Personnel to sign (ERO's, EROSL's) by priority.

MAINTENANCE MANAGEMENT SOP

UNIT HEADING

4790  
ID  
(Date)

From: Commanding Officer  
To: Commanding Officer, 2d Maintenance Battalion (Attn: MOS)  
Subj: AUTHORIZED PERSONNEL TO RECEIPT FOR MATERIAL AND EQUIPMENT FROM  
THE INTERMEDIATE MAINTENANCE ACTIVITY  
Ref: (a) AirStaO P4790.1  
(b) FSSGO F4790.4

1. For the instructions contained in references the following personnel are authorized to receipt for material and equipment from the supporting intermediate maintenance activity.

<u>NAME</u>	<u>GRADE</u>	<u>SSN</u>	<u>SAMPLE SIGNATURE</u>
-------------	--------------	------------	-------------------------

2. This letter supersedes the previous letter of authorization dated,  
\_\_\_\_\_

/s/ \_\_\_\_\_  
Commanding Officer

Figure 2-2 -- Sample format of a letter Authorizing Personnel to Receipt for material and equipment at the Intermediate Maintenance Activity

MAINTENANCE MANAGEMENT SOP

CHAPTER 3

SUPPLY AND FISCAL SUPPORT

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# MAINTENANCE MANAGEMENT SOP

## CHAPTER 3

### SUPPLY AND FISCAL SUPPORT

#### 3000. STJPPPLY SUPPORT

##### 1. General

a. Effective maintenance cannot be accomplished without effective supply support. If maintenance is accomplished on a scheduled basis and necessary parts are placed on order when required, the supply system will readily respond to the requirement. Equipment should not be allowed to deteriorate to the point **where** trouble has become compounded. This will increase the response time of the supply system.

b. Maintenance at any echelon cannot **be** accomplished without adequate supply support. Ignorance of proper procedures; failure to ensure timely requisitioning, reconciliations and follow-ups; improper accounting, storing, and issuing parts/material contribute to the breakdown of the supply maintenance chain. Aggressive follow up actions are as much a function of maintenance as installation of the part when it is obtained.

c. To facilitate supply support, preventive maintenance services on equipment **should be** scheduled over the entire period of the requirement. For example, quarterly PM's should be spread over the entire quarter. This not only aids maintenance by providing an even ~~workload~~, it enables the supply system to capture valuable usage data, thus allowing stockage of the parts/material used in providing the service. Stockpiling of parts in the maintenance facility and obtaining parts from other sources (scrounging) and not reporting usage, does not create usage data and results in the supply system not being able to provide the part readily when the stockpile or other sources are exhausted. The supply system will support the maintenance effort if maintenance personnel provide the required input documentation and practice supply discipline.

2. Supply Coordination. Coordination between the maintenance and supply activities is essential to the maintenance effort. Open active communication channels must exist between maintenance units and the supporting supply agency. The supply officer must be aware of the problems of the maintenance officer and ensure that proper procedures are used and that supply discipline is practiced in the maintenance shop. Supply discipline is characterized by:

a. Only required material is requested.

b. Proper forms and procedures are used to request the required material.

c. Material is properly used.

d. Material not used is returned promptly to the supporting supply agency.

e. Demand history is recorded for items obtained from sources outside the supply system.

f. Outstanding requisitions are reviewed biweekly to validate the continued need for the material.

### 3001. REPAIR PARTS REQUEST SYSTEM

#### 1. Sources of Supply

##### a. Stocked/Non-Stocked Items

(1) The requisitioning, receipt, storage, and issue of repair parts and materials for the Station Armory shall be conducted through the Station Property Control Office in accordance with the current editions of UM 4400-15, UM 4400-124, and MCO F4790.2.

(2) The requisitioning, receipt, storage, and issue of repair parts and materials for all other Station organizations shall be conducted through the Director of Supply (Navy Supply) in accordance with the current edition of NAVSUPINST 4400 Series.

b. Non-System Items. Repair parts not stocked in the Supply System (Non-System Items) may be purchased by authorized maintenance organizations from local vendors in accordance with AirStaO P11016.2 for the Station Armory and for all other Station organizations in accordance with ABO 4236.5.

#### 2. Source, Maintenance Recoverability (SMR) Codes

a. Repair parts will not be ordered for any echelon of maintenance that exceeds the authorized capability of the unit. The echelon authorized to remove, replace, and repair a part/component is indicated by the third and fourth digits of the Source, Maintenance, and Recoverability (SMR) Code. The third digit identifies the echelon that may remove and replace the part/component. SMR codes are listed in SL-4's and repair parts list.

b. To the maximum extent possible, all parts required to repair an item of equipment will be requisitioned at one Lime to preclude prolonged. deadline time.

#### 3. Requisition Priority Designators

a. Priorities will be assigned to repair parts requisition per the instructions contained in the current editions of MCO 4400.16 and UM 4400-15. The proper priority is determined by combining the Force/Activity Designator (F/AD) with the Urgency of Need Designator (UND).

b. Unit commanders may delegate in writing the authority to sign UND "A" requisitions (DD 1348 or EROSL's) required to support Equipment Repair Orders (ERO's) that are properly authorized. The approved ERO must be assigned a UND "A" priority and signed by the appropriate authority. This authority may be extended to include category "C" ERO's of similar priority that is supported by a properly authorized base ERO.

c. Persons authorized to review/approve UND "A" and "B" priority designators will affix their signature to the original and retained copy of all supply/maintenance documents requiring approval prior to submissions to the service provider.

### 3002. REPAIR PARTS CONTROL

#### 1. Pre-expended Bins

a. Pre-expended bin (PEB) items provide continuous availability of low-cost, fast-moving items for mechanics and technicians performing maintenance. The primary reason for maintaining PEB is to enhance maintenance operations and economical management of low-cost, fast-moving, expendable items.

b. The PEB criteria is as follows

(1) Fast-moving consumables eligible for stockage as PEB items are those with six hits in six months when the full unit of issue (U/I) is applied/consumed and one hit in six months when less than a full U/I is applied/consumed.

(2) Consumables approved for stockage as PEB will not exceed 30 days of supply for each unit., based on an average **demand** over the previous 12 months.

(3) To accommodate peak demand periods for units supporting fourth and/or fifth echelon maintenance, the highest two months usage of the previous 12 months history may be averaged to establish 39 days of supply for the line item. Further, local exceptions are authorized for specific, **peculiar** usage patterns for U/I, such as feet, or gallons, provided each is justified in 30 days of supply and the item **is** under established dollar limitations.

(4) Those consumables applied in quantities less than a full U/I (e.g., box, hundred, mix, etc.) will be held not to exceed two full U/I's, except if 30 days of supply is the greater quantity. See paragraph 3002.4 for more details.

(5) Stockage for PEB is authorized if the dollar value of the standard unit price of an item having a U/I of pair or each is less than or equal to \$25, or if less than or equal to \$50 for an item having a U/I of other than pair or each.

c. Stockage and dollar value for Station Motor Transport will be in accordance with MCO P11240.106.

d. Authorization letters from Commanders authorizing FEB's will contain the following information at a minimum:

(1) National stock Number/Part Number.

(2) Nomenclature.

(3) Unit of Issue.

(4) Unit Cost.

(5) Requisitioning Objective.

(6) Total cost.

(7) Reorder Point (ROP)

(8) Bin Location # (entries under this column may be left untapped and subsequently entered in pencil or grease pencil by the section maintaining the FEB).

e. Once a FEB is authorized, each bin must be established with the following annotated on the bin; bin #, and NSN. When a unit deals with small parts, the **reorder** point quantity is placed in a bag in the bin. When the parts personnel have to open the Gag to get a part, they know it is time to reorder more parts.

f. All items that bins are prepared for must be authorized by the Commander. If an item is not on a shop's FEB letter, it is not authorized in the bin.

g. New items recommended for inclusion in the FEB may be incorporated in to the FEB authorization letter on a one time basis only. These new items should be placed at the end of the letter under the heading "NEW ITEMS". Initial projections for requisitioning objectives (RO's) will not exceed one unit of issue (U/I) for other than each (EA) or pair (PR) or a quantity of 20 for U/I's of EA or PR. The reorder point (ROP) will not exceed five. If the item fails to meet the FEB criteria within twelve months, the item will be deleted from the authorization letter and any remaining quantities will be rolled back to supply.

h. FEB Computations:

(1) Prior to the computation of the RO and ROP for new items, a minimum of twelve months usage data (quantity used, requisitioning delays, number of orders, etc.) must be collected for each item included in the authorization letter. Once an item has established a

usage pattern, twelve months of usage data must be used to identify stockage levels. Therefore, PEB quantities go through a maturation cycle from initial projection to stockage based on year's usage data. The twelve months usage data standard is established to account for seasonal fluctuations, etc. The preferred method of maintaining history/usage data is through the use of local automated tracking, log-books, or dropsheets. Selection of a suitable method is left to the Commanders discretion.

(2) From the recorded usage, data the average number of parts used per month (U) and average procurement lead time (T) need to be calculated. The below equations apply:

$$(a) \text{ Usage (U) } = \frac{\text{sum of the parts applied during the period of time}}{\text{number of months (preferably 12)}}$$

$$(b) \text{ Procurement Lead Time (T) } = \frac{\text{sum of requisitioning time delays}}{\text{number of requisitions}}$$

Note: Requisitioning time delays can be easily calculated through the use of the EROSL's/DD 1348's. Requisitioning time delays is defined as the difference between the day the EROSL/DD 1348 was received by supply and the part(s) received at the maintenance facility. Both dates must be annotated on the requisition. Calculated procurement lead time (T) should be carried out to 2 decimal places (i.e., 1.37) for the sake of accuracy. Calculated monthly usage quantities should be rounded to the next higher whole number (interger).

(3) The PEB formulas are:

$$(a) \text{ ROP } = \text{U} \times \text{T}$$

$$(b) \text{ RO } = \text{ROP} \times \text{U}$$

Note: The above ROP and RO formulas are based on the assumptions that the demand for the parts are constant and that past requisitioning delays adequately predict future lead times. These assumptions may not always hold statistically true resulting in some minor variations in the PEB's stock posture. If these variances (excesses/shortages) are significant, a review should be initiated for direct causes and necessary corrective actions. No safety stock is incorporated into the formulas since none is authorized by MCO P4400.150. Units desiring to use formulas other than the above must have their PEB formulas approved by the Station MMO.

i. PEB's will be reevaluated at least semi-annually

\* 2. Excess Parts. Excess repair parts received from any source will be turned into the supporting supply agency/section utilizing the DD-1348 in most cases or as required by the responsible supply officer

to facilitate proper accounting. Prior to turn-in, parts will be properly identified by National Stock Number. Repair parts will not be stockpiled in maintenance sections. "Goody Boxes" will not be condoned.

3. Maintenance by Cannibalization. Maintenance by cannibalization is defined as the removal of a serviceable part of component from one item of equipment for use in repairing another item of equipment. Selective interchange is cannibalization.

a. Cannibalization of mission-essential equipment is not authorized.

b. Cannibalization for commercial-type items of station property will not be employed except when, in the opinion of the commander, such an item is no longer usable in its present condition and could not be economically repaired and used for the purpose for which originally intended, nor could it be expected to realize a fair market value if used for trade-in purposes,

#### 4. ERO/SRO BINS

a. If more than one repair part has been requisitioned for an item of equipment and it is impractical to install the parts individually as they are received, an ERO/SRO bin (also known as layette bins) will be established either by the organization's supply section or in the maintenance shop.

b. The commander must specify procedures for the use and control of ERO/SRO bins and the responsibility for the maintenance and control thereof. Minimum procedures which must be established are as follows:

(1) Designate by billet who has responsibility for the layette bins.

(2) A copy of the EROSL be maintained with the parts that are placed in the layette bins.

(3) All parts received by the maintenance shop will have the associated requisition annotated with the julian date received and the layette bins clerk's initials.

(4) When all parts have been received, the maintenance supervisor will be notified.

(5) When the technician picks up the repair parts, the technician will affix and his/her initials.

(6) Access to the area where parts are stored will be controlled to eliminate the possibility of parts being used on equipment other than for which they were ordered.

(7) Each item must be tagged/marked with the applicable ERO/SRO number.

(8) Each item on requisition must be validated biweekly.

3003. DIRECT EXCHANGE. Presently Marine Corps Air Station units do not maintain any Maintenance Float/ORF items.

#### 3004. NEW EQUIPMENT

##### 1. Policy for Using/Serviceing Organizations

a. New items of equipment will be placed on administrative deadline-and will not be put into service until all of the following standards, as applicable, have been met by the using/serviceing organization.

(1) All authorized stock levels/allowances of peculiar support items (repair parts, components, collateral equipment, kits, test equipment, tools, and technical manuals) are on hand.

(2) Adequate stocks of common support items are on hand.

(3) Sufficient trained operators are on board.

(4) Sufficient trained technicians/mechanics are available at all repair echelons.

(5) Adequate funds have been requested in the appropriate fiscal year budget.

b. Quality Deficiency Reports will be submitted, as applicable, in accordance with MCO 4855.10.

##### 2. Activation of New Equipment

a. Upon activation of new equipment, commanders will notify the Station Maintenance Management Officer.

b. Ensure that supervisory personnel are familiar with the contents of MCO 4400.32.

3005. MOUNT OUT. Marine Corps Air Station units do not maintain any mount out stocks.

3006. VALIDATION AND RECONCILIATION1. Definitions

a. Validation. This is the process by which requirements are confirmed. It involves confirmation of requirements which are still needed, cancellations, receipts, scrounges, and current status. When confirming needed requirements, the customer must ensure that they still exist, have been made known, and are resident in the supply system.

b. Reconciliation. The process by which an organization ensures that validated requirements are properly logged within the supply system.

2. Requirements. Validation and reconciliation must be conducted for the sources of supply addressed in paragraph 3001.1 preceeding. Accordingly, the following procedures are established;

a. Daily Validation. The shop/records clerk will accomplish the following;

(1) Ensure that the EROSL, or the material record of the SRO has been completed for all ERO's/SRO's opened the previous day requiring parts.

(2) Ensure that all material received from the organization's supply section has been issued to a mechanic or stored in an ERO/SRO bin.

b. Biweekly Validation. Once every two weeks, the shop/maintenance officer/supervisor or NCOIC will accomplish the following:

(1) Review the daily validation procedures to ensure that they are being accomplished properly.

(2) Ensure that all ERO's/SRO's cite the actual condition and that the status is correctly reported.

(3) Inventory the contents of all ERO bins by comparing the appropriate EROSL, Shopping list, or SRO to the quantity on hand. Annotate the EROSL, shopping list, or SRO with an asterisk where there are changes, and report any requirements to the organization's supply section.

c. Biweekly Reconciliation between the Organization's Shop Maintenance and Shop Supply (Figure 3-2). Upon completion of the biweekly validation, reconcile each EROSL/shopping list/material record section of the SRO with the outstanding demand cards held by the organization's supply section.

(1) Identify those parts no longer required and destroy the demand card.

(2) Identify those parts received but not shown as received by the organization's supply section, and destroy the demand card.

(3) Identify those parts not received but shown as received, and have the organization's supply section obtain a demand card (if the item is still NIS) from the NavSup Customer Service manager.

d. Biweekly Reconciliation between the Organization's Supply Section and the Manager at Customer Service. Check the status for each demand card and request the item manager to take action as follows:

(1) UND A, B, and C requisitions for which the most recent status received has been over 30 days need follow-up with the source of supply.

(2) UND A requisitions for which the most recent status received has been over 15 days need follow-up with the source of supply.

(3) UND A and B requisitions for which the most recent status received has been over 30 days need follow-up with the source of supply.

### 3007. TOOLS, SETS, CHESTS, AND KITS

1. General. Each tool set, chest, and kit within the organization will be located, and responsibility for accounting and maintaining the tool set, chest, or kit will be specified by billet in the organization's shop maintenance SOP.

#### 2. Inventory

a. A complete inventory of all tool sets, chests, and kits will be made using the appropriate SL-3, SL-3 extract, or U.S. Army supply catalog for those items resident in the supply system.

b. For tool sets, chests, and kits procured commercially, a local stock list inventory will be prepared from the accompanying commercial manual.

c. All common or special tool sets, chests, or kits and the required inventory intervals are as follows:

(1) Individual tools stored by the section toolroom for check-out to maintenance personnel will be inventoried monthly using a locally prepared stock list.

(2) Those securely stored by the section toolroom for use by an individual/crew on an "as required" basis will be inventoried when issued, upon return, and monthly.

(3) Those issued to individuals with locks and secured in a storage area provided for the exclusive use of that individual will be inventoried upon issue, quarterly, and upon turn-in.

(4) Those securely stored by the organization's supply section and not in use will be inventoried annually.

### 3. Control

a. The current edition of MCO P4790.2 provides an inventory control record. This format will be used by Station units recording monthly, quarterly, and annual inventories. When a set, chest, or kit does not have an SL-3, organizational commanders will ensure locally procured inventory forms in this format are used.

b. Tool sets, chests, or kits issued to individuals will be secured when not in the custody of the individual. A duplicate key or a copy of the lock's combination should, when practical, be maintained by the responsible officer.

c. Tool sets, chests, or kits held by an organization for issue to individuals will be maintained in an area secured against pilferage.

d. Daily issue and receipts for tool sets, chests, and kits will be recorded in a log book. Minimum entries to be recorded are as follows: date, description, time out, check-out inventory completed, time in, check-in inventory completed, and signature. The inventory columns will be initialed by the individual checking out the tool kit, set, or chest in or out, respectively.

e. The remarks section of the inventory form will be annotated with document number for items which are missing or unserviceable. Each organizational commander must ensure that each missing/unserviceable component is placed on requisition and that the section Supply maintains current validation of these documents,

f. Tool kits, sets, and chests held in toolrooms from which tools are issued temporarily to mechanics on a recurring basis will be inventoried monthly by an individual, other than the toolroom custodian, designated by the Responsible Officer.

g. Annual inventories of sets, chests, or kits not currently in use will be conducted during the regular annual physical inventory of property. The original of the inventory will be retained in the organization's files and a copy placed in the kit, set, or chest. The kit, set, or chest will then be banded or locked to preclude unauthorized use of the tools contained therein.

h. Inventories will be maintained on hand for one year and contain the date of the inventory, the signature of the individual conducting the inventory and the individual supervising the inventory. Personnel supervising the inventory will ensure that during the inventory the tools are inspected for serviceability and safety hazards and that required maintenance is conducted.

### 3008. FISCAL SUPPORT

1. General. Adequate fiscal support is vital to the maintenance effort. Funds are required to purchase required parts, materials, and/or services. Failure to allocate sufficient funds for maintenance precludes the accomplishment of required preventive and corrective maintenance services resulting in increased deadline of equipment and, ultimately, the inability of the activity to accomplish its assigned mission.

2. Budgeting of Maintenance. Annually, Station organizations are required to develop their budget estimates for their organization for the current fiscal year, the coming budget year, and the budget year plus one. Maintenance Managers will participate in the development of the budget and ensure that the requirement for maintenance related funds are included in the operating and maintenance budget estimate. Data required to support the estimated maintenance expenditures can be obtained by reviewing equipment records and supply records to determine past expenditures for maintenance services and parts. A valid estimate of the funds required for maintenance can be obtained by projecting past expenditures for maintenance services and parts. A valid estimate of the funds required for maintenance can be obtained by projecting past expenditures into future operations and by taking into consideration the unit mission and the equipment to be supported (increased age of old equipment, the introduction of new equipment).

3. Utilization of Maintenance Funds. The expenditures of funds allocated for equipment maintenance and maintenance management personnel to ensure their effective utilization. This can be accomplished by:

a. Providing continuing attention and emphasis to the accomplishment of preventive maintenance to preclude the necessity for more costly corrective maintenance.

b. Reviewing maintenance procedures to ensure economy of operation.

c. Reviewing equipment records to detect repeated failures. Repetitious failures may be indicative of improper or incomplete maintenance. If the same problem recurs frequently and is corrected by replacing the same part each time, the indication is that maintenance personnel are treating the symptom rather than finding the true underlying cause of the fault.

d. Ensuring compliance with the current edition of ABO P7000.6  
(SOP for Financial Management).

MAINTENANCE MANAGEMENT SOP

UNIT  
Marine Corps Air Station  
Cherry Point, North Carolina 28533-5000

4790  
ID  
DATE

From: Commanding Officer/Directorate  
To: Commanding General, Marine Corps Air Station, Cherry Point  
(Attn: Director of Facilities, MMO)

Subj: REQUEST FOR AUTHORIZATION FOR CANNIBALIZATION/SELECTIVE  
INTERCHANGE

Ref: (a) AirStaO P4790.1

1. Per the reference, it is requested that the cannibalization/  
selective interchange indicated below be authorized.

UNIT	EVAC					OWNING			DATE
<u>ERO#</u>	<u>ERO#</u>	<u>NOMEN</u>	<u>SERIAL #</u>	<u>TAMCN</u>	<u>ID #</u>	<u>UIC</u>	<u>PRI</u>	<u>RDD</u>	<u>EVAC</u>

Repair parts to be exchanged:

<u>NOMEN</u>	<u>NSN</u>	<u>PRI</u>	<u>DOC</u>	<u>STATUS</u>	<u>DATE</u>	<u>ITEM</u>	<u>DATE</u>	<u>ITEM</u>	<u>DATE</u>
					<u>SERIAL</u>	<u>FROM</u>		<u>SERIAL</u>	<u>TO</u>

a. (Give an explanation of what repair parts are to be exchanged  
between what specific equipment).

b. (Give the reason why the parts exchange is required indicating  
that an operational commitment is imminent and that the required repair  
parts will not be received prior to the RDD).

2. The point of contact for this exchange is \_\_\_\_\_, at  
extension \_\_\_\_\_.

/s/ \_\_\_\_\_  
(Commanding Officer, Directorate)

Figure 3-1 -- Sample Format of a Letter Requesting Authorization For  
Cannibalization/Selective Interchange.



MAINTENANCE MANAGEMENT SOP

CHAPTER 4

MAINTENANCE TRAINING

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# MAINTENANCE MANAGEMENT SOP

## CHAPTER 4

### MAINTENANCE TRAINING

#### 4000. GENERAL INFORMATION

1. Maintenance/maintenance management training is a command responsibility and requires command interest to develop a workable training program. Effective maintenance cannot be accomplished by untrained personnel. Although the majority of maintenance personnel receive formal school training and are assigned an MOS/Job Classification upon completion of the school, this does not, in itself, make them instantly qualified as experts in their respective fields. The instruction received provides the basis for developing qualified mechanics/technicians. Expertise is gained through experience by application of the principles learned under the supervision of more qualified (experienced) mechanics/technicians.

2. Training provided cannot be limited to "technical" or "MOS" training. It is not sufficient for an operator to know only how to operate the equipment. Operators must also be trained in preventive maintenance requirements and techniques, use of techniques, use of technical publications, and supply and maintenance procedures. Similarly, mechanics/technicians must receive training on equipment operation, proper maintenance techniques, use of technical manuals, supply and maintenance procedures, and the fundamentals of the maintenance related programs explained in Chapter 8. Supervisors must receive training on the Marine Corps supply and maintenance systems, how to obtain and use supply and maintenance publications, and detailed instruction on the maintenance related programs is explained in Chapter 8 of this order.

3. The unit Training OIC in coordination with the MMO and commodity managers is responsible for identifying training needs, establishing training objectives, and developing the unit's maintenance/maintenance management training program.

#### 4001. TRAINING REQUIREMENTS

1. MCO 1500.40 sets forth the policy, philosophy, and priorities for Military Occupational Specialty (MOS), Mission Oriented Training (MOT), and Skill Progression Training (SPT). Accordingly, commanders will ensure that required training is included in the unit's annual training plan and the minimum hours per quarter for each subject is accomplished.

2. Commanders will be responsible pursuant to MCO 1500.40 the selection of topics, preparation of lesson plans/training aids, and the assignment of instructors for maintenance operator training. The subjects listed herein are considered essential to the organization's maintenance program. Included areas within each subject should be

tailored to the trainees; i.e., operator, technician, direct supervisor, or staff supervisor. The list is not to be considered all inclusive; additional subjects determined to be necessary by the organizational commander shall be included in the organization's training program. Figure 2-2 of the current edition of MCO P4790.2 provides training topics which may be used for the selection of topics.

a. Marine Corps Technical Publications. (i.e., technical manuals, technical instructions, modification instructions, supply instructions stock lists, etc.) Acquisition, maintenance, and use of the publications should be stressed. The activity publications control will **be** explained in detail.

b. Calibration Program. Purpose of calibration, responsibilities, and documentation required by the activity calibration control program.

c. Modification Program. Requirement and authority for modification of equipment and the modification control program.

d. Preventive Maintenance, Requirement, scheduling methods, documentation, preventive maintenance indicators.

e. Corrective Maintenance. Program established within the organization for accomplishing required corrective maintenance, evacuation procedures, etc.

f. Echelons of Maintenance. Responsibilities for each echelon. Echelon authority by Table of Organization.

g. Equipment Records. Operational and maintenance records. Responsibilities and procedures for completing forms.

h. Inspections. Use and types

i. Safety. Operational and maintenance records. Responsibilities and procedures for completing forms.

j. Quality Deficiency Reports. Purpose, proper completion of forms, submission of reports.

k. Report of Discrepancies in Support Publications. Use of NAVMC 10772.

l. Shop organization and management.

m. Control of tools, support, and test equipment.

n. Equipment preservation procedures.

o. Supply Support. Use of forms, priority designators, urgency of need designators, control of repair parts, and pre-expended bins. Validation requirements and procedures.

p. Maintenance Related Programs. Purpose, use, and procedures of those maintenance related programs set forth in chapter 8 of this order.

q. Financial Management. Budget process and responsibilities within the activity.

r. Secondary Repairable Program. Purpose and procedures for use.

s. Maintenance SOP's and Desk Top Procedures. Purpose, requirements, preparation, and use.

t. Marine Corps Integrated Maintenance Management System's Automated Information System (MIMMS-AIS). FMF versus post and station application.

#### 7. Formal Schools

a. Formal schools are those courses of instruction established by the Marine Corps, other services, the Department of Defense, or civilian institutions. Training provided may be specialized, i.e., on a particular type/item of equipment, or it may cover all facets of an occupational specialty.

b. Commodity managers and maintenance managers shall continually review available courses of instruction and request quotas as needed to ensure assigned personnel receive the benefits which can be gained by this type of instruction. Requests for quotas should be based on the current and planned needs of the organization and preparation of individuals to fill positions of higher grade and increased responsibility.

c. Nominations to formal schools will be based on an individual's qualifications.

d. Organizational commanders and the Station Maintenance Management Officer will coordinate with the Director of Training and Education in requesting quotas.

e. Quotas, when obtained, must be met unless an exception is granted by the Director of Facilities.

4. Correspondence Courses. Correspondence courses, available from the Marine Corps Institute and other sources, can be used to supplement and enhance other methods of instruction. They should not be used alone as a substitute for other methods of training.

## 5. Maintenance Management Training

a. Maintenance management training is required to provide instruction on current managerial techniques for the effective and economic management of all maintenance resources. While maintenance management training must be provided in detail to operational and maintenance supervisors, the fundamentals of maintenance must be disseminated to all personnel.

b. The Marine Corps has established a Maintenance Management Officers/Staff Noncommissioned Officers School at Landing Force Training Command, Little Creek, Virginia. This course is available to all ground officers (WO to LtCol) and SNCO's. **Requests** for quotas to this course will be coordinated with Station MMO.

c. The Station Maintenance Management Officer will hold periodic seminars, with all unit MMO's, MMC's, commodity managers attending to discuss mutual problem areas and new programs being adopted.

4002. FIELD TRAINING. Currently, opportunities for Maintenance Training in the field is not available as Air Station units are normally associated with a Non-Tactical environment

## 4003. INITIAL SKILL TRAINING (IST) AND SKILL PROGRESSION TRAINING (SPT)

1. IST and SPT are probably the easiest and least expensive ways of improving the qualification of maintenance personnel. IST is that training undertaken by each Marine subsequent to recruit/officer acquisition training to initially qualify for a basic Military Occupational Speciality (MOS). This training may be conducted in institutions as formal schools or in units as on the job training (OJT), managed on the job training (MOJT), fields skills training (FST) for enlisted Marines. SPT is that training received subsequent to initial skill qualification training, which provides a Marine with additional skills and knowledge in his/her MOS to perform at a more skilled level or in supervisory position. OJT is probably the easiest and probably the most abused method of training.

2. The Marine Corps Institute (MCI), the Department of the Army, as well as other services, offer a wide range of maintenance related correspondence courses. Commodity managers are strongly encouraged to coordinate with the MMO and Training OIC to determine the content and availability of such courses for unit maintenance personnel.

3. Maintenance training is available from the Intermediate Maintenance Activity (IMA), 2d Maintenance Battalion, 2d Force Service Support Group. Requests for maintenance training will be submitted to this headquarters (Director of Facilities, MMO). Requests will state dates, time, type of training, and number of

personnel required. Training support from the IMA will be dependent on commitments and availability of 2d Force Service Support Group personnel.

#### 4004. TECHNICAL TRAINING

1. Technical training (skill progression MOS training) is required for all technicians and maintenance supervisors and will provide the level and degree of instruction necessary to perform maintenance duties commensurate with rank and MOS. All assigned personnel shall be afforded the opportunity to participate in all types of training available to enhance their proficiency. Quotas for formal schools will be requested and, if made available, filled with qualified personnel. Commanders will include technical training on the unit training schedule, provide necessary on-the-job training, and encourage enrollment in available correspondence courses.

2. The following minimum requirements in the **area** of technical training are required to be accomplished.

a. Technical training will be conducted whenever new equipment is introduced or new maintenance personnel are introduced to the unit's equipment.

b. Technical training will be conducted in the use and care of various tools, test, measuring, and diagnostic equipment.

c. The adequacy of unit, training shall be determined by the administration of **skill** tests upon completion of the training.

d. Refresher training will be conducted as determined by the condition of equipment and/or the results of inspections.

#### 4005. CROSS TRAINING

1. Cross training is used to familiarize an individual with aspects of an MOS or occupational field other than normally performed. It is of particular benefit to individuals whose assigned MOS/Job Description merges with other MOS/Job Descriptions at a higher grade in acquainting them with the fundamental requirements of the combined MOS/Job Description. Cross training of mechanics and technicians increases our maintenance skills base and provides flexibility in meeting maintenance requirements.

2. Cross training will be conducted as follows

a. Commodity managers will cross train selected personnel within their shops.

b. Cross training will be confined to personnel within the same occupational field.

c. Cross training of personnel from different occupational fields will be accomplished to fill skill shortages only.

d. Cross trained personnel must be effectively used within the commodity.

3. Commodity managers will ensure that records are maintained on all personnel who have received cross training.

#### 4006. CIVILIAN EMPLOYEE TRAINING AND DEVELOPMENT PROGRAM

1. Training Policy. The Civilian Personnel Department is responsible, in conjunction with appropriate Station unit/section head, for the training of civil service employees aboard Station. This responsibility includes the training required to introduce maintenance personnel of all Station organizations to new equipment and procedures.

2. Training Program. The Civilian Personnel Department will include in its annual training program that training necessary to ensure that civilian employees are prepared to discharge their maintenance responsibilities.

3. Requests for Training. Requests for formal training will be submitted per the current edition of ASO P12410.16 (Civilian Employee Development and Training Program).

MAINTENANCE MANAGEMENT SOP

CHAPTER 5

INSPECTIONS/VISITS AND QUALITY CONTROL

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# MAINTENANCE MANAGEMENT SOF

## CHAPTER 5

### INSPECTIONS/VISITS AND QUALITY CONTROL

#### 5000. GENERAL

1. To supplement information received on equipment status, commanders at all levels must ensure that proper operating and maintenance procedures are being utilized in their organizations. This is achieved by inspections and visits conducted by the commander or member of the staff. Inspections are one of the principle means available to a commander, by which the commander can ascertain whether the planning and organization are sound, the staff is functioning effectively, and if the directives are clear, understood, and being effected by subordinates. Inspections promote efficiency and economy of operations by identifying procedural deficiencies, equipment defects and improper utilization of maintenance resources.

2. Of equal importance to the information gathering aspect of inspections and visits is the impact of operations of the visible display of command interest demonstrated by frequent visits to the maintenance **area** by the commander and the staff. Not, only will the commander be better informed but the recognition afforded the maintenance effort will emphasize the importance placed on maintenance by the commander. Such recognition will provide the impetus for a more effective and responsive maintenance **program**.

3. Maintenance inspections are conducted by the unit commander or his staff as well as higher headquarters in the form of staff visits, technical inspections, or command inspections. Such inspections may be conducted in different ways and for a variety of reasons. The type of inspection used should be determined by the command based on the inspection objective desired. Maintenance inspection requirements are found in the current edition of MCO P4790.2.

4. There are two basic types of inspections; formal and informal. The names are descriptive of the atmosphere in which the inspections are conducted and not necessarily of the content of the inspection itself.

#### 5001. FORMAL INSPECTIONS

1. Formal inspections are normally announced in advance and conducted in accordance with an established schedule or procedure. Checklists will be used by the inspectors and may be used by the unit to prepare for the inspection. During the period allocated, the formal inspection is the primary activity of the inspected unit and personnel and equipment are made available to the maximum extent possible. Formal command inspections will be conducted annually.

2. Marine Corps Order P4790.2 provides a sample checklist that may be used as a guide by all units in the development of checklists suitable

to their own inspections. All aspects of the unit are subject to inspection during the inspection period.

3. Regardless of what is to be inspected, or the type of inspection to be conducted, inspections must be limited to pinpointing deficiencies. On finding a deficiency, inspectors will explain to the individual concerned, and identify appropriate reference material. Outstanding areas and procedures will be scrutinized closely to determine if procedures utilized may be used elsewhere and to afford deserved recognition to the personnel involved.

4. Inspections must be objective and based on realistic and measurable standards. Judgements must be devoid of emotion and not based on the personalities of personnel encountered.

5. Formal **inspections** of maintenance commodities areas will be conducted to:

a. Discover failure or the indication of failure of parts and assemblies.

b. Ensure maintenance records are being maintained **properly**.

c. Ensure maintenance is being properly performed

d. Evaluate shop procedures.

e. Determine if the commodity complies with the directives of higher headquarters.

f. Evaluate proficiency of maintenance personnel.

h. Inspect maintenance management and MIMMS procedures

6. Maintenance Management Inspection (MMI)

a. The MMI program will be established and conducted by the Station MMQ. The inspection will encompass all areas of maintenance and maintenance management under the cognizance of the MMO.

b. Organizational commanders who have equipment assigned to the Station will establish inspection schedules to evaluate maintenance management as it pertains to user maintenance (e.g., Ordnance, Motor Transport, etc.). If the organization does not own the equipment but is tasked with supporting maintenance, an inspection will be scheduled to evaluate 1st echelon maintenance of **those** units which it supports (e.g., commercial type communications-electronics equipment).

c. Reports of the inspection will be distributed to the commander of *the* organization inspected, the Station Inspector and, Station MMO.

### 5002. INFORMAL INSPECTIONS

1. While formal inspections normally encompass all areas of a unit's operation, informal inspections may examine only a specific area of operation. Checklists may or may not be used. The simplest form of an inspection is the observation of a specific function during a routine operation. Informal inspections are normally conducted while a unit continues normal operations.
2. Informal inspections are encouraged at all levels of command. This tool can provide the commander with an appreciation for the strengths and weaknesses of the maintenance and maintenance management procedures and personnel. It also provides a visible expression of his command interest in the unit's maintenance management program.
3. Informal inspections may be requested from the Marine Corps Air Station MMO. Requests must be submitted in writing to this Headquarters (Director of Facilities, MMO).
4. At the unit level the OIC/Commodity Manager will be responsible for unit informal inspection. Procedures will be outlined in the unit's MMSOP/Shop SOP.

### 5003. VISITS

1. Introduction. Visits are used in the same manner as inspections to obtain first, hand information. Visits may be conducted formally, in which case they take on the **aspects** of a formal inspection or they may be conducted in a very informal manner stressing exchange of information and **ideas**. Visits fall essentially into three categories: command visits, staff visits, and liaison visits.
2. Command Visits. The importance of visits to the operation/maintenance areas by organizational commanders cannot be over emphasized. Periodic, unscheduled visits by the commander will provide information on working conditions, conditions of equipment, and procedures actually utilized that may not be available from any other source. Additionally, visits by the commander are visible indications of the interest the commander has in maintenance and the emphasis the commander places on it. The information obtained by the commander is not the only benefit of command visits. The impact on morale and the recognition afforded maintenance personnel will result in an increase in the efficiency of the unit maintenance program.
3. Liaison Visits. Visits for the exchange of information, familiarization, and coordination are frequently necessary, and always beneficial between organizations where no junior-senior relationship exists.

5004. FSMAO ANALYSIS VISITS

1. Field Supply and Maintenance Analysis Offices are established to provide the Commandant of the Marine Corps with dual field representation by analyzing the effectiveness of supply and maintenance management procedures. The objective of FSMAO analysis is to promote efficiency in supply and maintenance management operations by:

a. Providing clarification of Marine Corps Supply and Maintenance Directives and Publications.

b. Isolating problems related to supply and maintenance procedures, providing instructions in proper procedures as necessary and appropriate.

c. Apprising commanders in the chain of command of significant discrepancies and problem trends.

d. Providing the Commandant of the Marine Corps (LFP-1) information on the effectiveness of Marine Corps Supply and Maintenance directives and procedures to include recommendations for changes, when appropriate.

e. Analysis visits are announced approximately 30 days in advance by letter from FSMAO to unit being analyzed.

3. FSMAO representatives are authorized to analyze all correspondence, vouchers, accounts, and records of supply and maintenance activities. They are further authorized to require physical inventories and to trace the receipt, maintenance and disposition of supplies and equipment through any records deemed necessary. It is the responsibility of Commanders and their respective Supply and Maintenance Officers to provide requested records and to make available all necessary personnel. When required, clerical assistance will be provided by the unit being analyzed.

4. Upon the conclusion of the analysis and prior to the out-brief with the Commander, the analysis team will normally critique the working level first where knowledge and experience have their greatest effects. The critique will cover all discrepancies noted, to include those corrected during the analysis and those requiring further action. The analysis team will critique the Commander on areas considered to be most significant and requiring command attention. During this critique, the Commander will have the opportunity to request clarification of any findings or recommendations.

5. FSMAO prepares two reports, the checklist (informal) and the final (formal) report. The checklist provides comments on all discrepancies noted during the analysis and is retained by the unit. Approximately 30 days after the analysis, FSMAO submits a formal written report containing significant findings and recommendations to the Commanding

General via the Commander of the unit analyzed. Reports which contain significant findings and reports containing repeat findings are sent to the Commandant, of the Marine Corps.

#### 5005 INSPECTION REPORTS

1. Immediately following an inspection, a critique, covering all items noted during the inspection, will be given to the unit commander and personnel inspected by the inspecting party. This critique is not the same as a formal report in that some discrepancies may not appear in the formal report. The critique will cover all areas inspected, highlighting both the positive and negative aspects with a goal of improving or helping the unit's maintenance management program.
2. An inspection report, will be prepared by all maintenance or maintenance management inspectors for all formal inspections conducted by this Command.
3. All inspection/analysis reports will be thoroughly reviewed and analyzed by unit maintenance personnel to determine trends within the unit. Analysis should not be confined to reports on individual sections or to reports from particular inspections. Analysis should include a review of all previous inspection reports and an evaluation of the units internal training and inspection program.
4. Inspection reports will be maintained on file by inspected units for a period of two years.

#### 5006. CORRECTION OF DISCREPANCIES

1. All discrepancies noted during the inspection will be corrected in an expeditious manner. Preparation for future inspections will include special emphasis on previously noted discrepancies to insure they do not recur.
2. Reports of action taken to correct discrepancies not in formal inspections will be submitted to this Headquarters (Director of Facilities) within 30 days of receipt unless otherwise directed in the report.

#### 5007. QUALITY ASSURANCE (QA)

1. The objective of quality control **is to** maximize equipment readiness, efficiency, and reliability by ensuring that proper and efficient maintenance and procedures are performed during the maintenance process. Each organizational commander tasked with performing equipment maintenance will establish quality assurance procedures in the shop maintenance SOP.

2. QA is one of the key objectives of maintenance operations. The quality assurance system is comprised of:

a. A strong internal review program.

b. Quality Control (QC) plans which include all activities (training, reviewing applicable technical publications (TM's, ALO's, scheduling, etc.) that occur **prior** to maintenance being performed and are aimed at the prevention of defects.

c. Inspections that are primarily aimed at eliminating inferior workmanship and equipment failure after it occurs, but before the equipment reaches the user.

3. "Quality" is generally defined as "fitness for use". Availability, maintainability, and reliability are the attributes of a sound quality assurance program. Availability defines the continuity of service provided by the equipment. Reliability refers to the length of time the equipment can be used before it fails (Mean Time Between Failure (MTBF)). Maintainability refers to the restoration of the equipment to full service after a failure (Mean Time to Repair (MTTR)). The relationship between the three terms can be expressed as:

$$\text{Availability} = \frac{\text{MTBF}}{\text{MTRF} + \text{MTTR}}$$

Through the use of historical records maintained within the commodity shop, equipment availability can be easily calculated. If the equipment availability percentage for particular types of equipment drop below 80%, causes need to be identified for immediate correction and long term supervision. Adverse maintenance trends can be directly linked to a lack of sound quality assurance procedures.

4. To implement planning and control of quality throughout the maintenance cycle requires the following sequence of steps:

a. Identify the conformance standards in the applicable technical manuals (i.e. define the fitness for use attributes).

b. Establish an inspection program for maintenance and associated paperwork procedures.

c. Find and correct causes of poor quality (non-conformance) through proper supervision, training, and planning (QC).

d. Notify appropriate headquarters, maintenance management personnel, and supporting maintenance facilities of design flaws through the use of Quality Deficiency Report's (QDR's) (SF 368).

e. Sustain the commitment of Commanders, cognizant maintenance personnel, and operators to maintain equipment in a fully functional and safe state (quality awareness).

5. Quality cannot be inspected into equipment. Upon discovery of defects, supervisors should locate underlying causes (improper parts, wrong tools, lack of training, improper assembly, unclear procedures, faulty equipment, etc.). The objective to these quality control measures is to ensure user protection and mission attainment. Toward those objectives, supervisors should consult with operators and technicians concerning problems which prevent them from performing their tasks right the first time. Rapid response to the individual identifying the problem is necessary to maintain interest, involvement, and credibility in the defect cause removal phase of the QA program.

6. Quality assurance works directly with the commodity's PM and CM Programs in three main areas:

a. Acceptance of equipment will establish all known discrepancies prior to the performance of maintenance. This ensures that all parts required will be ordered at one time. Faulty LTI's lead to excessive maintenance cycle time and degraded readiness.

b. Supervisory checks of repairs in progress examine actions performed by operators and technicians. On-the-spot correction should be used when less than satisfactory performance is noted.

c. Final inspection procedures must be stringent and per current directives. This will ensure that noted discrepancies were corrected and that personnel are performing assigned tasks properly.

7. Each commodity will appoint at least one QA inspector. The QA inspector will be school trained mechanics/technicians, and will be the only personnel authorized to inspect, accept, and approve work. It cannot be over emphasized that the QA inspector demonstrate sound judgement, maturity, superior technical ability, and forceful leadership. Lack of the above traits invariably leads to inferior service and sometimes tragic results.

8. The total quality concept requires that the quality assurance program receive significant command attention and proper staff functioning. The keys to success are the commander communicating his/her quality assurance goals, and a strong internal review program established by OIC's and commodity supervisors to ensure that commodity areas are conducting the appropriate inspections and quality control planning. The costs of a lack of quality are injured servicemembers and/or degraded mission capabilities.

#### 5008. MAINTENANCE MANAGEMENT ASSISTANCE TEAM

1. The Maintenance Management Assistance Team (MMAT) is established for the sole purpose of assisting Station organizations in establishing, implementing, and maintaining their maintenance management program and are used as the inspecting **agent** of the Commanding **General** for Maintenance Management.

2. The MMAT will be tasked organized for each commitment. It will consist of the Station MMO, Station Maintenance Management Chief, and commodity specialist from other organizations as required.
3. The MMAT will respond to requests from commanders/officers in charge to evaluate and/or assist their maintenance management program Requests may be submitted to the Commanding General (Director of Facilities (MMO)).

MAINTENANCE MANAGEMENT SOP

CHAPTER 6

FACILITIES

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# MAINTENANCE MANAGEMENT SOP

## CHAPTER 6

### FACILITIES

6000. GENERAL. Efficient equipment maintenance can be achieved only when the activity has the maintenance facilities necessary to perform the authorized echelon of maintenance on the equipment supported and when the facilities are properly utilized. Maintenance facilities consist of buildings, land, shelters, and all permanent improvements that are used for maintenance purposes. Thus, not only must a building be provided, it must, also include the necessary utilities, e.g., lighting, plumbing, ventilation, etc..

#### 6001. RESPONSIBILITY

1. Facility Assignments. The Director of Facilities is responsible for the assignment, including maintenance and storage facilities. All requests for assignment, additions, or improvements of facilities are required to be submitted in writing to the Commanding General (Director of Facilities). Any proposals for acquisition, expansion, or modification of facilities should be clearly stated and amplified by sketches or outlines, as appropriate, at the time of submission.

2. Commanders are responsible for the proper utilization of assigned facilities. Inherent in this responsibility is the requirement to ensure that the facilities are properly maintained and policed.

3. Maintenance managers are responsible to the commander for the day-to-day utilization of maintenance facilities and for the internal organization of facilities assigned.

#### 6002. MAINTENANCE AREAS

1. Location. Maintenance areas should be located as close as possible to billeting, messing, and operating areas to reduce travel time of personnel and the need to transport equipment.

2. Requirements. To satisfy the requirements of maintenance, the facility provided must do more than merely provide shelter from the elements. It must contain, among other things, adequate heating, lighting, plumbing, electrical power, and ventilation of facilities

a. Heating. The capability must exist to provide sufficient heat to allow assigned personnel to accomplish required maintenance. Extreme cold limits the capabilities of maintenance personnel to accomplish required tasks. If a central heating unit does not exist, organizational commanders should arrange for the installation of space heaters for use.

b. Lighting. Adequate lighting must be provided to accomplish assigned tasks and without constituting a health hazard to personnel. Lighting requirements have been established by the Occupational Safety and Health Administration for various occupations. Commanders should determine adequacy of existing lighting by requesting a lighting survey be conducted. Requests should be submitted to the Director of Facilities.

c. Plumbing. Water must be provided in sufficient quality and at the desired location required to accomplish the maintenance tasks and to provide necessary drinking water and toilet facilities. Additional facilities are required in battery charging areas.

d. Electrical Power. Electrical power required for the operation of tools, test equipment, and Shop equipment must be available in the proper phase, frequency, and voltage required.

e. Ventilation. Proper ventilation is a necessity for the safety of personnel. This is a prime requisite in areas where vehicular equipment is maintained, where equipment is cleaned by using chemicals, and in battery charging areas.

f. Additional requirements may exist which are peculiar to the type of equipment being maintained. An example of this is the provision of an adequate grounding system where electrical or electronic equipment is being repaired. Commanders and commodity/maintenance managers should determine specific requirements and ensure they are provided to facilitate the maintenance effort and enhance personnel and equipment safety.

3. Organization. The maintenance shop should be organized to provide for efficient workflow, personnel safety, and the economic use of support and test equipment. Although the differences required by each commodity area preclude a standardized shop arrangement, there are certain characteristics which are common to all shops. These include the maintenance area, shop office, tool room supply, publications library, and the shipping/receiving (check-in/check-out) areas. Appendix E of MCO P4790.2 provides additional information relative to shop organization.

a. Maintenance Area. The maintenance area is the focal point around which all other shop sections/offices are arranged. Supporting sections/offices must be readily accessible to maintenance personnel in order to expedite the maintenance process and decrease time away from the job. The maintenance area must be large enough to sustain the maintenance requirements of the shop. Access to the maintenance area should be limited to shop personnel and those visitors cleared through the shop office. The work areas should be divided into grouping of like maintenance areas which have common power, lighting, ventilation, and test equipment requirements. Common use test and support equipment (equipment which is used in more than one operation or on various types of equipment) should be so located that it is readily accessible to all who require its use.

b. Shop Office. The shop office should be located adjacent to shipping/receiving to facilitate processing paperwork and contact with shop customers. All personnel desiring to enter the shop, other than those assigned, should be required to check in and out at the shop office not only for control but to preclude interference in the maintenance process. Ideally, all shop functions should be visible from the shop office.

c. Toolroom, Supply, and Publication Library. These areas should be located adjacent to the maintenance area. The accessibility of **these areas** to maintenance personnel will encourage their use and preclude prolonged absences from the job underway, thus expediting the maintenance process.

### 6003. STORAGE AND CONTROL

1. Security of maintenance facilities is of utmost importance. Procedures will be established by the unit to proper security and accounting for all items of equipment in each commodity as applicable.
2. Particular attention must be given to equipment stored in maintenance facilities which are seldom used. Consideration should be given to boxing and banding this equipment to prevent loss and pilferage.
3. Equipment will not be stored in violation of current fire regulations.
4. The procedures for collection, storage, and turn-in of hazardous waste will be followed as directed by current regulations.

MAINTENANCE MANAGEMENT SOP

CHAPTER 7

PUBLICATIONS AND DIRECTIVES

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# MAINTENANCE MANAGEMENT SOP

## CHAPTER 7

### PUBLICATIONS AND DIRECTIVES

#### 7000. GENERAL

1. It is essential that the necessary publications and directives be available and that their use be understood by all personnel who need the information they contain. Most operators and maintenance personnel receive familiarization training on publications and directives while undergoing training for their MOS. They do not, however, receive any in-depth training on how to determine publications requirements or on how to obtain and maintain publications and directives; nor is this information provided in higher level schools. This training must, therefore, be provided by the activity head.

2. Technical publications associated with Marine Corps equipment may be published by CMC, other chiefs, or commercial vendors. The current, edition of MCO P5215.17 provides information on the Marine Corps Technical Publication System.

#### 7001. RESPONSIBILITIES

1. Activity Heads. Activity heads shall ensure that required publications and directives are available and that personnel are trained in their use, acquisition, maintenance, and disposition.

2. Adjutant. The Adjutant exercises primary staff cognizance over the activity's publications control and distribution system. In conjunction with the MMO, commodity managers, and maintenance managers, the Adjutant will establish the activity's publication requirements and internal distribution.

3. MMO. The MMO exercises staff cognizance over the acquisition, maintenance, and use of technical publications and ensures that the activity training program includes required training on publications. The MMO provides technical assistance to the Adjutant in determining the publications required, their quantities, and their internal distribution.

4. Commodity/Maintenance Managers. Commodity/maintenance managers establish required technical libraries within their areas of responsibility and provide required training on the acquisition, use, and maintenance of publications. Commodity/maintenance managers will establish a publications inventory and control system and provide input to the Adjutant and MMO on publications required from automatic distribution.

7002. PUBLICATIONS IN SUPPORT OF LIBRARIES

1. Checklists. A checklist, of effective directives, MCBul 5215, is published quarterly by CMC and all other echelons of command who issue directives. These checklists must be used to ensure that the current edition of all required directives are on hand.
2. SL 1-2, Index of Authorized Publications for Equipment Support. SL 1-2, published quarterly by CMC, provides a listing of all publications authorized to be used in operating and maintaining Marine Corps Equipment,. The index, arranged in equipment identification number sequence, lists all publications authorized and required for the operation and maintenance for each type of equipment, under the equipment's ID number. However, since some end items contain components which have publications of their own, the components may also have to be referenced to obtain a complete listing of publications required for such end items. For GME, which are not listed, commercial manuals **apply**.
3. SL 1-3, Index of Publications Authorized and Stocked by the Marine Corps. SL 1-3 published by CMC provides listings by prefix control number (PCN) and short title of all publications stocked at MCLB, Albany. Included in each listing is the distribution code under which the publication is automatically distributed.
4. Upon receipt of the SL 1-2/1-3 quarterly, a review of technical publications will be conducted and all required changes appropriately dealt with.
5. NAVMC 2761, Publications Stocked by the Marine Corps (Indexed by Distribution). This publication is indexed by the Marine Corps distribution codes/lists that are shown in the current edition of MCO 5600.45, and also includes publications distributed to special distributions.

7003. PUBLICATIONS CONTROL SYSTEM

1. General. The establishment of a publications control system **is** accomplished by determining requirements, establishing internal distribution, and establishing an inventory control and requisitioning process.
2. Determining Requirements. To determine an activity's requirements for publications it is necessary to ascertain the types of equipment to be supported, the echelon of support provided, the quantity **of** publications required, and in what locations. This is accomplished by using the T/E or activity allowance list, the T/O cover page, the SL 1-2, and the SL 1-3. Heads of subordinate elements in an activity receiving publications through the activity's internal distribution should accomplish the following:

a. Using the T/E (or allowance list), prepare an inventory for each type of equipment rated/supported. At this time, only equipment, nomenclature, ID number, TAM number, and quantity rated/supported need to be completed.

(1) Support maintenance activities require publications for the equipment of all activities supported.

(2) ID and TAM numbers can be found in the NAVMC 1017.

b. Refer to SL 1-2 to determine the publications required for each type of tactical equipment. Only those publications required for the echelon of maintenance authorized in the "logistics capabilities" paragraph of the T/O cover page should be listed on the card, except that, all modification instructions and technical instructions should be listed and held regardless of the echelon of maintenance authorized.

c. Enter the PCN, found in the SL 1-3, on the inventory for each publication listed.

d. The number of copies of each publication required is dependent on the number of technical libraries to be established, the number of copies in each library, the quantity of equipment to be supported and the method of employment of the equipment. It is not considered practical in all cases to have a set of publications pertaining to an item of equipment for each item possessed. The following may be used as guide in determining the requirements for operational (1st and 2d echelon) publications:

If the number of items on hand is:	Activity should have:
1 to 10	One publication each
11 to 20	One publication for every two equipments
21 to 30	One publication for every three equipments.

The above is merely a guide; the actual determination of requirements will be made by the activity head.

e. Technical publications of a general nature (e.g., TM 4700-15/1, Equipment Record Procedures) and those technical manuals and technical instructions which provide general information concerning a commodity area, maintenance or maintenance management, may not be listed under the equipment to which they apply. To identify this type of publication, it is necessary to review that part of the SL 1-3 which lists the publications by short title; or determine their existence through the publication being referenced in other

publications, directives, or checklists. The determination of requirements is accomplished in the same manner as the equipment oriented publications.

3. Internal Distribution. Directives received as a result of requisitions submitted will normally be received through the mail. These publications can be identified by the copy of the requisition document in the package of publications. Publications received by requisitioning should be forwarded to the activity's supply shop where the requisitioning should be forwarded to the activity's supply shop where the requisition can be recorded as having been filled and the publications delivered to the section(s) that originally ordered them.

4. Inventory Control. Inventory control is the means used to ensure that the publications received are properly maintained. This area of the activity's directive on publications should be the most detailed since the instructions provided will be used daily by the publications librarians in the subordinate elements of the activity.

a. Publications Libraries. The locations (by shop/section) of all libraries within the activity must be identified. Although the arrangement of directives is specified in the current edition of MCO F5215.1, the arrangement of technical publications is left to the discretion of the activity head and, in most cases, to the shop officer. Publications may be arranged in numerical order by publication number or grouped by equipment type.

b. Requisitioning Instructions. The procedures to be used within the activity for requisitioning publications must be explained in detail. Instructions should include any mandatory review procedures established for control purposes.

c. The establishment of an inventory control system for each library established is mandatory. File copies of requisitions submitted for publications should be maintained by the librarian.

d. Libraries will be physically inventoried upon receipt of new checklists and an updated SL 1-1. Superseded and cancelled publications and directives will be disposed of in accordance with current directives. Requisitions will be submitted for those publications/directives authorized and required but not on hand.

#### 7004. RECOMMENDED CHANGES TO PUBLICATIONS

1. Publications for commercial type equipment, including garrison mobile equipment, are normally procured and distributed with the end items. Very few of these publications are **available** through the Marine Corps Publications System and, as a result, are not listed in the SL 1-2 and SL 1-3. Operation and maintenance publications for commercial type equipment must **be** procured locally through the equipment distribution or from the equipment manufacturer by the activity requiring the publication.

2. Publications for commercial equipment will be managed and controlled in accordance with the provisions of this section.

3. Marine Corps Orders in support of Garrison Mobile Equipment will be ordered through the Director of Facilities. The Management Assistant at the Facilities Directorate will verify the requirement and submit all requests to the Station Adjutant. The Station Adjutant upon receipt of a request will order the required publications.

7005. FUELICATIONS REQUEST. All requests for publications will go via the Station Adjutant. The MMO will screen all technical manual requests. Requests will be submitted on an 80 card column worksheet..

MAINTENANCE MANAGEMENT SO?

CHAPTER 8

MAINTENANCE RELATED PROGRAMS

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# MAINTENANCE MANAGEMENT SOP

## CHAPTER 8

### MAINTENANCE RELATED PROGRAMS

#### 8000. GENERAL

1. Many programs have been established in the Marine Corps which have a direct effect on maintenance. These programs have been designed to ensure more effective management, increased control, and an improved readiness posture.

2. Maintenance related programs not addressed in previous chapters of this Order which affect a majority of Station organizations will be discussed here. The below programs have been discussed previously:

- a. Maintenance Float (secondary repairables)
- b. Operational Readiness Float (ORF).
- c. Calibration Control Program
- d. Modification Control Program.
- e. Quality Control
- f. Administrative Deadline.

#### 8001. QUALITY DEFICIENCY REPORT (QDR)

1. MCO 4855.10 establishes the criteria and provides instructions for the submission of Quality Deficiency Reports (QDR's).

2. The purpose of the QDR is to provide information to activities responsible for development, procurement, or management of equipment concerning deficiencies in design, material, or procurement, so that action may be taken to correct the reported deficiency. QDR's shall be prepared and submitted by the individual(s) who discovers the deficiency. They will not be delayed administratively to correct grammar or spelling.

3. Organizational responsibilities are as follows:

a. Ensure all maintenance/maintenance management personnel are familiar with the contents of MCO 4855.10.

b. Provide an adequate and readily accessible supply of SF 368 (QDR's) in all maintenance shops.

\* c. Submit all maintenance related QDRs to the MMO for assignment of control numbers.

d. Ensure the following procedures are accomplished during submission:

(1) For a Category I QDR. Suspend the use of such material and notify the Commanding General (Code 808-1), Marine Corps Logistics Base (MCLB), Albany, Georgia, directly by message. The Commandant of the Marine Corps (Code LMA-21, major Marine Corps commands, the supported and supporting units will receive information copies. The message will be prepared for release by the Director of Facilities. The message shall be completed in accordance with MCO 4855.10. The notification shall include the reasons for the suspension of use and other pertinent details. This action shall be followed with the Submission of a SF 368 (QDR) within 48 hours of the message transmittal. The SF 368 shall be prepared in accordance with MCO 4855.10 and shall contain the message date time group (DTG), the same report control number as used on the message, a complete explanation of the circumstances that necessitated the suspension, a request for disposition instructions, and a statement of location of the exhibit.

(2) For a Category II ODR

(a) Suspend the use of the item or material, as necessary. Submit a QDR using the SF 368 as outlined in MCO 4855.10.

(b) Forward the QDR in triplicate to Commanding General (Code 808-1), MCLB, Albany, Georgia 31704-5000 (screening point), with a copy to the Director of Facilities, Marine Corps Air Station, Cherry Point, North Carolina 28533-5000.

(c) Forward the QDR within 30 days after discovery of the deficiency.

(d) Hold defective material as an exhibit for possible use in the investigation of failure.

(3) Categorization of the QDR. Enter 'C' for category I and 'R' for category II. For example, M00973-83-006 R, the category I date time group (DTG) and the message report control number shall be shown in item 22 for the SF 368 follow-up.

(4) For all QDR Categories

(a) Maintain all backup/supporting documentation and/or exhibits until the screening point calls for the data or receipt of the control number and disposition instructions from the screening point.

(b) Upon notification from the screening point that the data/exhibits are not required, repair/overhaul, returning items to stock, using the appropriate condition code, or make disposition in the best interest of the Government.

(c) Use of the appropriate priority designator of Military Standard Requisitioning and Issue Procedures (MILSTRIP) requisitioning procedures when forwarding documentation, exhibits, or samples.

(d) When material deficiencies cannot be appropriately analyzed at a given user/maintenance level, the maintenance activity supporting that level shall assist in the analysis and failure documentation prior to submission of the QDR.

4. The Station Maintenance Management Officer's responsibilities are as follows:

a. Report any deficient QDR responses to the Commanding General (Code 808-1), MCLB, Albany, Georgia 31704-5000 (screening point), for corrective action. If the subsequent corrective action is still deficient, report it to the Commandant of the Marine Corps (Code LMA-2), Headquarters, U. S. Marine Corps, Washington, DC. 20380.

\* b. Assign all maintenance related QDR control numbers

c. Maintain a status log on all QDR's submitted through final action, noting final action taken.

#### 8002. DETERMINATION OF ECONOMICAL REPAIR

1. The current edition of MCO 4710.8, Uniform Criteria for Repair Cost Estimates used in Determination of Economical Repair, provides the instructions to be followed in determining the eligibility of an item of equipment, except for commercial use vehicles for repair. The purpose of this program is to ensure, to the maximum extent possible, that total repair costs are determined prior to commencing work on the equipment. The objective of the program is to preclude excessive expenditure for repair of equipment which should be washed out of the system as uneconomical to repair.

2. All Station organizations involved in repair of Marine Corps equipment will prepare an estimate of repair costs prior to commencing work on an item of equipment. In the case of minor repairs (estimated cost of repairs 10 percent or less of the standard unit price or one-time expenditure limit of engineer equipment) estimated repair cost will be entered on the ERO/SRO. A Limited Technical Inspection form need not be completed for minor repairs but is required for all major repairs (estimated repair cost 10 percent of the standard unit price of one-time expenditure limit). Enclosure (5) of MCO 4710.8 will be used to compute one time repair cost for engineer equipment when the estimated repairs exceed (10) percent.

3. The policy and procedures for the replacement and repair of tactical engineer equipment are contained in the current edition of MCO 4710.8, Uniform Criteria Repair Cost Estimate, used to determine economical repairs. The order provides the criteria to be used in the

determination of the economical repairability of equipment to preclude the unnecessary expenditure of maintenance funds when item replacement is more economical.

4. Proper maintenance of equipment records is essential to this program. Organizational commanders will ensure compliance with the record keeping requirements established in bhs current edition of TM 4700-15/1.

#### 8003. RECOVERABLE ITEMS PROGRAM

1. The purpose of the Recoverable Items Program (RIP) is to ensure recovery and evacuation or disposal of principal repairable items which are excess to an organization's requirements, require repair that is beyond the capability of the activity, or are not economically repairable when the condition of the equipment and the asset position of the Marine Corps are considered. The program is explained and procedures for its implementation are set forth in the current edition of MCO P4400.82, Controlled Items Management Manual.

2. Determination of the condition of equipment to be reported in the program is the responsibility of maintenance organizations.

#### 8004. REPLACEMENT AND EVACUATION PROGRAM

1. The Replacement and Evacuation (R&E) program is designed to extend the service life of Marine Corps equipment by providing for its timely replacement and evacuation for rebuild while assuring the required material is on hand in the using activity. This is accomplished by a planned retrograding of selected equipment for rebuild after like items have been provided to using activities. The program is explained in Chapter 5 of the current edition of MCO P4400.82, Controlled Item's Management manual.

2. Nomination of equipment assigned to Station organizations will be coordinated by the Station MMO.

#### 8005. REPAIR AND RETURN PROGRAM

1. The R&R Program was developed to support those assets not supported by the R&E Program. Equipment is evacuated to MCLB Albany for rebuild and return to the organization. The major concern for Station units is the item may not be returned for up to six months.

2. Before nominating a item for the R&R Program, the following should be considered:

a. The affected commodity should be able to perform its mission without the equipment for several months.

b. Commodity managers should project for the eventuality that all nominated equipment may be evacuated in one month.

c. Commodity managers must make prudent management decisions concerning nominations and be able to support all operational/training commitments.

## 8006. GARRISON MOBILE EQUIPMENT (GME)

1. Definition. Garrison mobile equipment is used to perform transportation and maintenance at Marine activities. It consists of passenger vehicles, cargo vehicles, materials handling equipment, and railway rolling stock. Garrison mobile equipment is commercially available equipment and is not intended for tactical use.

### 2. General Information

a. Management, acquisition, and use of garrison mobile equipment are governed by MCO P11240.106.

b. Garrison mobile equipment is to be used to the fullest possible extent to meet general support requirements so as to avoid a decrease in readiness of tactical equipment.

c. The basic policy governing operational management of GME at Marine Corps Air Station is ASO P11240.106.

d. The Station Motor Transport Officer (SMTO) is assigned as the Fleet Manager for GME and as such is assigned the responsibility for the administration, operation, and maintenance of all GME assigned to Marine Corps Air Station, Cherry Point.

### 3. Maintenance

a. The Station MTO is responsible for the first through fifth echelon of maintenance on all administrative use Motor Transport equipment assigned. Maintenance of GME engineering equipment is accomplished at the Heavy Equipment Section.

b. Whenever administrative use motor vehicles are assigned on a permanent basis or while in garrison, the suing activities are responsible for first echelon maintenance (driver's maintenance).

c. Repairs and preventive maintenance services on GME will be performed per MCO P11240.106, appropriate vehicle, and technical manuals. Equipment resource records (i.e., NAVMC 696D, Motor Vehicle and Engineering Equipment Record Folder, NAVFAC 9-11200/3A, Shop Repair Order, etc.) will be used and maintained per the current edition TM 4700-15/1. General forms and records as they apply to GME are contained in Chapter 9 of TM 4700-15/1.

d. Under no circumstances will using units perform repairs unless authorized, or make modifications or changes to GME. Requests for modifications should be coordinated with Station Motor Transport.

8007. JOINT OIL ANALYSIS PROGRAM. Currently the Air Station does not possess any vehicles (tactical) that meet the induction criteria in TI-4731-14/A for JOAP.