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Maintenance of Supplies and Equipment Army Materiel Maintenance Procedures

By Order of the Secretary of the Army:

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History. This publication is an administrative revision. The portion affected by this administrative revision are listed in the summary of change.

Applicability. This pamphlet applies to the Regular Army, the Army National Guard/Army National Guard of the United States, and the U.S. Army Reserve, unless otherwise stated. During mobilization, the proponent may modify chapters contained in this pamphlet.

Proponent and exception authority. The proponent of this pamphlet is the Deputy Chief of Staff, G–4. The proponent has the authority to approve exceptions or waivers to this pamphlet that are consistent with controlling law and regulations. The proponent may delegate this approval authority, in writing, to a division chief within the proponent agency or its direct reporting unit or field operating agency in the grade of colonel or the civilian equivalent. Activities may request a waiver to this pamphlet by providing justification that includes a full analysis of the expected benefits and must include formal review by the activity's senior legal officer. All waiver requests will be endorsed by the commander or senior leader of the requesting activity and forwarded through their higher headquarters to the policy proponent. Refer to AR 25–30 for specific requirements.

Suggested improvements. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) directly to the Deputy Chief of Staff, G–4 via email at usarmy.pentagon.hqda-dcs-g-4.mbx.publications@army.mil.

Distribution. This pamphlet is available in electronic media only and is intended for electronic media only for the Regular Army, the Army National Guard/ Army National Guard of the United States, and the U.S. Army Reserve.

*This pamphlet supersedes DA Pam 750-1, dated 2 February 2023.

Summary of Change

DA PAM 750–1
Army Materiel Maintenance Procedures

This administrative revision, dated 8 July 2026—

- Transfers DA Form 2401 (Organizational Control Record for Equipment), DA Form 2404 (Equipment Inspection and Maintenance Worksheet), DA Form 2408–4 (Weapon Record Data), DA Form 2408–14 (Uncorrected Fault Record), DA Form 5587 (Report of Drydocking, Painting and Condition of Vessel Bottom), DA Form 5984–E (Operators Permit Record (EGA)), DA Form 7957 (Preventative Maintenance Schedule and Record), DA Form 5987–E (Motor Equipment Dispatch (EGA)), DA Form 5987–1–E (Motor Equipment Dispatch - Alert (EGA)), DA Form 5988–E (Equipment Maintenance and Inspection Worksheet (EGA)), DA Form 5990–E (Maintenance Request (EGA)), and DD Form 1970 (Motor Equipment Utilization Record) from DA Pam 750–8 (app A).
- Makes administrative changes (throughout).

This major revision, dated 29 April 2026—

- Removes Commander and Leader Self-Test for Maintenance Management Competence (formerly para 1–7).
- Removes modular maintenance strategy (formerly para 3–4).
- Adds Field Maintenance Management Personnel (chap 4).
- Updates field maintenance principles (para 4–1).
- Replaces Non-Combat Maintenance Plans and Procedures with the Army Equipment Services Optimization Program (para 4–7).
- Updates Low Usage Program procedures (para 4–8).
- Updates Maintenance Expenditure Limits (para 4–12).
- Updates Maintenance of Army Watercraft (chap 6).
- Removes Condition-Based Maintenance, Condition-Based Maintenance Plus, and Prognostic Maintenance (formerly para 8–3).
- Updates Maintenance Awards Program (para 9–1).
- Removes the Army Tire Program (formerly para 9–8).
- Updates Command Maintenance Discipline Program (chap 10).
- Removes Maintenance Discipline Enforcement (formerly para 10–8 through 10–12).
- Removes Additive manufacturing categories for risk-based decision-making (formerly para 12–2).

- Removes Pre-Deployment Training Equipment (formerly chap 13).
- Removes DA Form 5480 (Maintenance Request and Assignment Register) (app A).
- Updates Department of Defense Core Capabilities Determination (app C).
- Removes Determination of Tactical Maintenance Augmentation Requirements for Military Mechanics During Peacetime Garrison Operations (formerly app C).
- Adds Standard Operating Procedures (app D).
- Removes DA Form 7567 (Special Repair Authority (SRA) Approval/Disapproval Sheet) Instructions and adds instructions to form (formerly app E).

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Chapter 1

Introduction

1–1. Purpose

This pamphlet provides an overview of maintenance topics required for daily maintenance operations. The pamphlet offers guidance, assistance, and procedures to support Army units with conducting maintenance tasks. This pamphlet helps commanders, staff, leaders, and Soldiers achieve and sustain the Army maintenance standard for assigned and attached equipment as prescribed in AR 750–1.

1–2. References, forms, and explanation of abbreviations

See appendix A. The abbreviations, brevity codes, and acronyms (ABCAs) used in this electronic publication are defined when you hover over them. All ABCAs are listed in the ABCA directory located at <https://armypubs.army.mil/>.

1–3. Associated publications

Policy associated with this pamphlet is found in AR 750–1.

1–4. Records management (recordkeeping) requirements

The records management requirements for all record numbers, forms, and reports required by this publication are prescribed in AR 25–400–2. Approved Army records control schedules are available on the National Archives and Records Administration website at <https://www.archives.gov/records-mgmt/rcs>. Retention schedules for Army users are located on the Records Management Division SharePoint Site at <https://armyeitaas.sharepoint-mil.us/sites/hqda-cio-ises-rmz/sitepages/director-army-records-management-directorate.aspx>. Refer to AR 25–400–2 for detailed records management requirements.

1–5. Purpose of Army maintenance operations

- a. Army maintenance operations generate and regenerate combat power and preserve the capital investment in combat systems and equipment over its life cycle.
- b. Preventive Maintenance Checks and Services (PMCS) are performed by Soldiers in organizations to preserve the operational condition and reliability of equipment. Operator/crew-level PMCS is the most critical element in the Army maintenance system.

1–6. Army maintenance standard

The Army maintenance standard is prescribed in AR 750–1 and is mandatory for all Army organizations. The Army maintenance standard is the foundation of the maintenance program. It is the required end state for Army equipment, enabling Army combat and combat support forces to generate combat power to accomplish assigned missions.

1–7. Equipment maintenance and evaluation by equipment operators

- a. Observation of equipment performance and condition is the basis of PMCS. The purpose of scheduled/preventive maintenance is to avoid premature failure of equipment and sustain the inherent reliability designed for the equipment. Operator PMCS is crucial to the success of unit maintenance operations and is required by technical manuals (TMs) (printed electronic technical manuals (ETMs) and interactive electronic technical manuals (IETMs)) before, during, and after operating the equipment. Through observation, an operator compares equipment performance and condition against an established technical standard and reports problems before they inhibit equipment performance. The operation and maintenance standards found in the TM–10 and TM–20 series specify the technical standards applicable to Army equipment.
- b. Unit leaders will conduct and supervise maintenance operations to ensure that operators, crews, and maintenance Soldiers work together to sustain equipment to standard.

1–8. Essential Army programs for effective maintenance management

Headquarters, Department of the Army (HQDA) develops programs, policies, and resources based on input from the field. Army programs and policies are critical to the success of maintenance operations as described in chapter 10 of this pamphlet.

Chapter 2 Maintenance Overview

2–1. Overview

a. The four core maintenance processes to manage equipment during its useful service life include:

(1) *Performance observation*. Performance observation is critical to the Army maintenance program and is the basis of PMCS required by all equipment TMs in the before, during, and after operation checks. Through observation, the operator documents observed performance against established standards and reports problems that degrade equipment before they become catastrophic. The TM–10 and TM–20 series designate the standards for all equipment. PMCS includes validating that software remains up-to-date, the cyber posture remains secure, and all modification work orders (MWO) and maintenance action messages (MAMs) have been applied. Identify and document the cause of failure through fault notification codes and work order (WO) processing codes.

(2) *Maintenance plans (scheduled services)*. Maintenance Plans are specified maintenance actions consisting of routine checks and repair of faults/deficiencies as determined by performance observations, system and component checks, updates, adjustments, and lubrication of components and systems according to engineer specifications. This also includes required actions from Army equipment safety and maintenance message notification system messages. Other messages include safety of use messages (SOUM), maintenance advisory messages, MAMs, safety of flight messages, aviation safety action messages, software/cyber updates, and MWOs. Materiel developers (MATDEVs) will develop strategies to conduct maintenance plans based on the usage of the equipment or evidence of need. These strategies will eliminate current time-based intervals where possible.

(3) *Fault repair*. Fault repair restores equipment to fully mission capable (FMC) status. Fault repair requires trained personnel, calibrated Test, Measurement, and Diagnostic Equipment (TMDE), technical information, and tools. Commanders, leaders, and maintenance managers will prioritize repair of deficiencies based upon mission requirements. The standard is to correct deficiencies as they occur.

(4) *Single-standard repair*. Single-standard repair is a process that seeks to ensure that a single repair standard is applied to all end items, secondary items, and components that are to be returned to the supply system. The single standard of repair is consistent with the Army maintenance standard prescribed in AR 750–1. Commanders will apply manpower, tools, test equipment, repair parts, maintenance kits, equipment, facilities, other resources, and allocated dollars to perform maintenance on Army equipment and maintain prescribed readiness levels.

b. Aircraft maintenance must be performed in accordance with approved TMs. Any deviation from standard maintenance will be handled in accordance with AR 70–62.

2–2. Maintenance priorities

a. Army maintenance tasks and operations will be conducted in mission priority sequence based on the importance of the maintenance work to be done. In the Army's overall logistics management system, relevance, and importance are expressed based on the urgency of need. Requesting organization commanders will determine the maintenance priority on work requests based upon the organization's urgency of need designator (UND). The UND is part of the Force Activity Designation (FAD). The FAD criteria is determined by Chairman of the Joint Chiefs of Staff instruction 4110.01F and the FAD Assignment given by the Secretary of Defense for FAD 1 and the services for FAD 2 through 5, Deputy Chief of Staff (DCS), G–3/5/7 (DAMO–FM). Once the UND has been identified, use table 2–1 to select the correct maintenance priority designator (MPD). Units can locate their force activity designator in the Structure and Manpower Allocation System or contact DCS, G–3/5/7 (DAMO–FM). Tables 2–2 and 2–3 indicate the Army maintenance turnaround time (TAT) standards that are associated with the organization MPD entered on a WO.

Table 2–1
Maintenance priority designators (relating force/activity designator to urgency of need)

Force activity designators	Urgency of need designators	Urgency of need designators	Urgency of need designators
	A	B	C
I	01	04	11
II	02	05	12
III	03	06	13
IV	07	09	14
V	08	10	15

Table 2–2
Maintenance priority designators and turnaround time (calendar days) Compo 1 and mobilized Compo 2 and 3

MPD	TAT standard
01–03	5 days
04–08	8 days
09–15	30 days

Note. Organizations may specify a required delivery date that is longer than 30 days when mission schedules permit.

Table 2–3
Turnaround time standard non-mobilized Compo 2 and 3

MPD	TAT standard
01–03	30 days
04–08	60 days
09–15	90 days

b. UND A will be assigned to unserviceable equipment under the following circumstances:

- (1) The unit/activity is unable to perform its assigned operational or training mission.
- (2) Materiel to be repaired is authorized in current authorization documents — modification table of organization and equipment (MTOE)/table of distribution and allowances (TDA) — and readiness reportable as written in AR 700–138 and listed in the current maintenance master data file (MMDF).
- (3) Repair of essential facilities of an industrial/production activity, manufacturing, modifying, or maintaining mission-essential materiel is required.
- (4) The materiel is an intensively managed, critical program information, or critical item.

c. UND B is used in the assignment of maintenance priorities for the repair of materiel when:

- (1) The unit/activity's ability to perform its assigned operational mission is impaired. Without such materiel, the unit/activity may temporarily accomplish assigned missions, but at reduced effectiveness and efficiency below the level of acceptable readiness.
- (2) The materiel is equipment readiness code (ERC) A or ERC P. It is not reportable under AR 220–1, AR 700–138, or listed on the current MMDF. For example, not reportable on DA Form 2406 (Materiel Condition Status Report), DA Form 3266–1 (Army Missile Materiel Readiness Report), or Enterprise Materiel Status Reporting (EMSR) including Army aircraft inventory, readiness status, and flying time.
- (3) U.S. Army Reserve (USAR) and Army National Guard (ARNG) TDA maintenance activities are authorized to upgrade the UND when a not mission capable (NMC) deficiency is found. Only NMC parts are requisitioned when upgraded.

d. UND C is used in the assignment of maintenance priorities for all other materiel not listed in paragraph 2–2. ERC references will be in accordance with AR 700–138.

2–3. Maintenance records

a. Accuracy and completeness of records are fundamental for the Army to manage maintenance programs and to validate the configuration of maintenance manpower resources in its force structure. Commanders will verify maintenance records in the tactical enterprise logistics systems (TELS) or on manual forms.

(1) Manual forms will be used only when the use of TELS is not available.

(2) Resource requirements submitted in accordance with AR 750–1 will be based upon command historical records and Army information resources such as the Enterprise Logistics Portal, Army Enterprise System Integration Program (AESIP), and Operating and Support Management Information System.

(3) Records from TELS such as Global Combat Support System–Army (GCSS–A), Logistics Modernization Program (LMP), aircraft notebook (ACN), or other DCS, G–4 approved systems may also be used.

b. Maintenance information will be maintained and accessible to various users Army wide for planning, programming, budgeting, program execution, and logistics management purposes.

c. Historical information on sustainment maintenance operations will be archived by Army Materiel Command (AMC) and provided on demand to appropriate users.

d. Historical documentation will be maintained at the appropriate levels of maintenance and repair (field and sustainment) in accordance with AR 700–138, DA Pam 738–751, TELS end-user manuals, and other applicable publications or directives.

e. For Army aviation assets, maintenance engineering calls written against a specific airframe will be retained in aircraft historical records and the aircraft logbook as long as the deviation is in effect and in accordance with AR 70–62. For cartridge-actuated devices and propellant-actuated devices, DoD identification code (DoDIC), lot numbers, shelf life (expiration dates in accordance with DoDM 4140.27, Volumes 1 and 2), and install date information is required to be maintained in the electronic aircraft logbook in accordance with AR 5–13.

2–4. Army maintenance management metrics

For Army-level maintenance management performance, the primary metrics used at HQDA are shown in table 2–4. Commanders will use the metrics in table 2–4, the metrics described in appendix B, and the summary reports in AESIP to assist in isolating problem areas and initiating corrective action. Maintenance personnel will be trained to complete maintenance tasks assigned to them.

Table 2–4

Primary metrics

Metric	Description
Total logistics response time– maintenance (TLRT–M)	The period that elapses between the time an item of equipment or component becomes unserviceable and the time that the item or component is returned to a serviceable status after receiving requested maintenance repair or services.
TAT	The period that elapses between the time that a maintenance organization accepts a unit WO, followed by accomplishment of the work and the time at close-out of the WO. TAT is a component of TLRT–M.
Operational Readiness (OR) Rate	1. Determined by LIN on-hand/availability status of designated critical equipment items (pacing items) and the on-hand availability status of the other mission essential equipment items (ERC A) listed on the units MTOE or TDA. 2. OR rate goal for defense satellite communication systems is 99%. 3. OR rate goal for ground and missile equipment is 90%. 4. OR rate goal for unmanned aircraft is 80%. 5. OR rate goal for aviation equipment is 75%.

Notes:

TLRT–M is the primary metric for monitoring how quickly maintenance support at any/all level responds to a commander’s mission requirements.

TLRT–M affects equipment availability, reportable under AR 700–138 and is visible to DCS, G–3/5/7 staffs using GCSS–A, EMSR, and the Strategic Readiness System.

TLRT–M is a DoD-recognized and Armywide metric that recognizes that warfighter support requirements have the highest priority.

2–5. Materiel status data flow reporting policy

a. Global Combat Support System–Army (GCSS–A) feeds Equipment Operational Status data for EMSR and reports at the equipment serial number level and at the owning/derivative unit identification code (UIC) level. EMSR data includes equipment from Ground, Missile, Manned and Unmanned Aviation, and Army Prepositioned Stocks (APS). AESIP pulls EMSR data automatically from GCSS–A on a scheduled date and time, but not before 0001 on the 16th of the report month and not after 2359 hours CST/CDT on the 19th of the report month in accordance with AR 700–138. The Logistics Data Analysis Center (LDAC), a subordinate command of AMC, is responsible for the AESIP EMSR common operating picture. The data contained in this report provides EMSR data/metrics necessary for analyzing Army readiness trends and projections.

b. Aviation units utilizing ACN systems continue reporting readiness data using the current procedures until directed differently by HQDA or modifications to the appropriate TELS are applied. Aviation units that do not use ACN systems must manually enter their readiness data into the EMSR data entry tool on the EMSR module on AESIP. The Army's goal is to support integrated enterprise aviation readiness reporting. In the interim, CAN, and EMSR data will continue to be processed on the 16th of the reporting month and immediately uploaded into the EMSR upload applications (file upload or manual entry) on the EMSR module in the AESIP portal before 2359 CST/CDT hours on the 19th of the month.

c. Property Book Officers must ensure that all readiness reportable equipment is properly accounted for in the Army Property System of Record (APSR) Property Book. Personnel will also use the subsystem configuration process to configure major end items with associated subsystems to report readiness for a complete system (for example, subsystems of an M1A2 tank system would consist of the tank, a radio, and machine guns).

d. The EMSR solution automatically collects, consolidates, and aggregates Equipment Operational Status data by Equipment and Force Structure for the readiness report period. Unit personnel update maintenance faults associated with specific items using TELS. Digital status records are available through their field-level maintenance providers. These records contain information on maintenance and supply actions. Unit personnel will ensure the accuracy of fault notifications, WOs, and requisitions from TELS to ensure the system of record captures the equipment's operational readiness.

e. The TELS references the MMDF to identify reportable items, system configurations, authorized substitutes, and relevant maintenance and supply information. LDAC maintains the MMDF in coordination with the DCS, G–4.

Chapter 3

The Army Maintenance System

3–1. General

The Army maintenance system is comprised of two levels of maintenance—field and sustainment.

3–2. Field level maintenance

Field maintenance is the first operation in the Army maintenance system. Field maintenance is the performance of maintenance tasks using trained personnel, tools, and TMDE. Field maintenance is operator/crew maintenance and repair and return to user maintenance operations. Field level maintenance is the foundation of Army maintenance and requires continuous emphasis from commanders and leaders (see fig 4–1). Operator and crew proficiency are critical to readiness and must be made a priority by leaders at all levels. Operators or crews performing PMCS from the applicable TM–10 series is the cornerstone of the Army maintenance system. Commanders must provide and protect adequate time for Soldiers to train and achieve required levels of proficiency. Commanders must designate, at a minimum, one full day for Command Maintenance to be conducted on a weekly basis.

3–3. Sustainment maintenance

Sustainment maintenance consists of materiel maintenance or repair requiring the overhaul, upgrading, or rebuilding of end items, parts, assemblies, or subassemblies and the testing and reclamation of equipment as necessary, regardless of the source of funds for the maintenance or repair or the location at which the maintenance or repair is performed.

3–4. Understanding forecasting and resourcing of maintenance operations and external support

a. Resource planning for maintenance operations happens at Army commands (ACOMs), Army service component commands (ASCCs), and direct reporting units (DRUs). Resource planning and forecasting clarify the implications of decisions on external maintenance support. This clarification ensures fluidity and continuity of operations.

b. Field-level maintenance capability is defined as the skills, expertise, and specialized repair shops and tools necessary to conduct the required maintenance task. This capability is identified on the units MTOE document as authorized personnel and equipment or by a field level maintenance dependency statement in the MTOE narrative. Support Maintenance Company (SMC)/Division SMC performs area support maintenance. The senior commander on the installation will ensure the establishment of installation maintenance support plans that outline support relations between tactical field-level maintenance echelons above brigade (EAB) activities and external maintenance activities to include establishment of Support Agreements.

(1) ACOM, ASCC, and DRU Commanders will program field level maintenance requirements in their Program Objective Memorandum submission and conduct coordination planning with AMC. Additionally, ACOM, ASCC, and DRU Commanders will provide an updated projection of requirements by second quarter each fiscal year (FY) of the maintenance workload that they anticipate evacuating to the Logistics Readiness Center (LRC). This prior planning will enable the LRCs to properly plan to support the required level of reimbursable workload.

(2) AMC will program field level maintenance requirements, CL VIII/ CL IX parts and labor, in the Installations and Logistics Panel to support garrison TDA unit base operations equipment.

Chapter 4 Field Maintenance

Section I

Field Level Maintenance

4–1. Field level maintenance principles

a. The fundamental element of field maintenance is the application of PMCS.

b. Operator/crew maintenance is the foundation of Army maintenance and is critical to Army readiness and requires prioritization and continuous emphasis from commanders and leaders.

(1) Commanders must establish a command climate ensuring maintenance is performed on assigned equipment in accordance with AR 750–1. Commanders are responsible for providing resources, assigning responsibility, and training Soldiers to achieve this standard.

(a) Sufficient time must be blocked in the unit's training schedule specifically for the performance of operator PMCS on a weekly basis.

(b) Sufficient time must be blocked on the unit's training schedule specifically for the performance of field level PMCS (-20 level scheduled services).

(c) A Command Maintenance Discipline Program (CMDP) needs to be established to ensure the unit meets standards (see chap 10).

(2) Operators/crews performing PMCS must follow the TM–10 series. Noncommissioned officers (NCOs) are responsible for ensuring operator/crew proficiency in the use and care of their assigned equipment. Commanders must provide adequate time for NCOs to train and achieve required levels of proficiency.

(a) Deficiencies detected during before-operations checks that make the equipment NMC or violate a safety directive must be corrected before the mission.

(b) Deficiencies detected during the mission affecting FMC status must be corrected as soon as possible.

(c) Faults detected before or during the mission not affecting FMC status should be corrected immediately, if time permits, but must be recorded and reported for correction after the mission.

(d) After-operations checks detect faults resulting from the mission and ensure the identification and correction of faults to maintain the equipment to the maintenance standard after the mission is complete.

(3) Maintenance operations assigned to operator or crew include the following:

(a) Performance of TM–10 series operator/crew PMCS.

(b) Inspections by sight and touch of accessible components. Lubricate, clean (including corrective actions repairing corrosive damage), preserve (including spot painting and the application of corrosion inhibiting compounds (CIC)), tighten, replace unserviceable parts, modules, and assemblies, and make minor adjustments as authorized by column C of the Maintenance Allocation Chart (MAC).

1. Replacement tasks are limited to mission essential on-board spares (see AR 700–18).

2. Non-essential replaceable parts that are within the operator's maintenance responsibility in accordance with applicable TM.

(c) Identify and annotate corrosion and failures on DA Form 5988–E (Equipment Maintenance and Inspection Worksheet (EGA)) for ground equipment or DA Form 2408–13–1 (Aircraft Inspection and Maintenance Record) for aviation equipment and take corrective actions (spot painting, proper washing, and application of CIC) within the operator's capability in accordance with AR 11–42, TB 43–0213, TM 43–0242, and TM 43–0243. Aviation systems and subsystems will annotate corrosion and failures caused by corrosion in accordance with DA Pam 738–751 and TM 1–1500–328–23.

c. Maintenance operations assigned to field maintenance include the following:

(1) Maintenance Plans (Scheduled Services).

(a) Maintenance plans are conducted in accordance with the TM or published MAM adopting the usage-based intervals.

(b) Army policy authorizes a 10 percent variance when performing maintenance plans.

(c) A service may not always be performed when scheduled, so a 10 percent variance before or after the schedule of days, miles, or hours, is allowed. If the action is within the variance, the service is treated as if it was done on the day/miles/hours schedule.

(d) The variance is determined by the equipment TM. Not all equipment is authorized a variance.

(e) When the service is completed within the variance, the equipment's miles, kilometers, or hours are recorded on the date service was scheduled. When a service outside the variance is completed, data is recorded on the actual day the service was completed. The TELS schedules the next service from the new date.

(f) When the service exceeds the 10 percent variance, the equipment is designated administratively NMC until the service is completed.

(2) Hands-on inspections of accessible components in accordance with prescribed TMs.

(3) Complete repainting in accordance with TM 43–0139. Pending availability, painting will be completed in an Occupational Safety and Health Administration (OSHA) approved facility.

(4) Troubleshoot, diagnose, adjust, and replace unserviceable parts, modules, and assemblies as authorized by the MAC.

(5) Requisition, receipt, storage, and issue of repair parts and major assemblies.

(6) Verification of faults and level of repair of unserviceable materiel.

(7) If repairs exceed the MAC authorization, the equipment will be escalated to sustainment or request disposition instructions for turn-in of NMC equipment in accordance with AR 710–2.

(8) Recovery or coordination for transportation of equipment to and from the support unit of action. Contracted maintenance support or government wage employees conducting recovery operations must be trained and certified as an H8, H9, or the equivalent.

(9) Materiel readiness reporting in accordance with AR 700–138 and current MMDF.

(10) Ensuring field level maintenance modification applications are applied in accordance with AR 750–10.

(11) Verify the classification of the MWO is annotated in the applicable maintenance TELS with an appropriate status.

(12) Only military occupational specialty (MOS) trained and certified personnel are authorized to perform body repair, including straightening, welding, sanding, and painting when required to prevent or control corrosion or restore structural integrity.

(13) Turn-in maintenance repair code (MRC) D, F, H, and L recoverable components to the supporting supply activity.

(14) Provide field maintenance support to other field maintenance units as required.

(15) Appropriate fabrication as approved by the TM.

(16) Operator/crews identify equipment faults and maintainers verify faults reported on the DA Form 5988–E. The Equipment Records Parts Specialist (ERPS) annotates deficiencies when creating a notification in GCSS–A WO process.

d. Performance of field level maintenance will be documented using DA Form 5990–E (Maintenance Request (EGA)), DA Form 2407 (Maintenance Request), or DA Form 5988–E and records in the TELS. This information is used to assist commanders in establishing, monitoring, and evaluating their maintenance program.

e. Field maintenance personnel will perform technical inspections (TI) to determine if items are serviceable and complete. Items will be inspected to—

(1) Verify serviceability of the item as prescribed in AR 750–1.

(2) Determine if items were rendered unserviceable due to fair wear and tear. In the event negligence or willful misconduct is suspected, repair will not be made until a commander's release statement is received in accordance with AR 735–5.

(3) Determine economic reparability of excess and mishap-damaged equipment.

4–2. The preventive maintenance checks and services process

a. The commander will designate in writing, readiness, safety, and CMDP officers. The TM–10 and TM–20 series designate the maintenance standards for all equipment. An abbreviated version is described below.

b. Operators/crews will use the applicable TM to perform PMCS before, during, and after operation.

c. During before-operation checks, correct repairable faults. Enter uncorrected faults not already recorded on a previously completed DA Form 5988–E and update GCSS–A accordingly.

d. Make operational checks during actual operation of the weapon system, vehicle, or other equipment, using the TM. The operator/crew chief will perform corrective actions to repair faults during the mission. Faults not corrected will be reported to the immediate supervisor.

e. During after-operation checks, the operator/crew and mechanic will correct known new faults. Uncorrected faults will be recorded in TELS. The nature of any uncorrected faults may dictate the availability of the equipment until the faults are corrected.

f. Leaders and Soldiers will use the TELS procedures to record equipment faults.

g. Ensure equipment using software is up to date with most current version and cyber compliant.

h. The commander or a designated representative will approve limited operations of NMC equipment (authorized Circled X status on DA Form 5988–E/DA Form 2404 (Equipment Inspection and Maintenance Worksheet)).

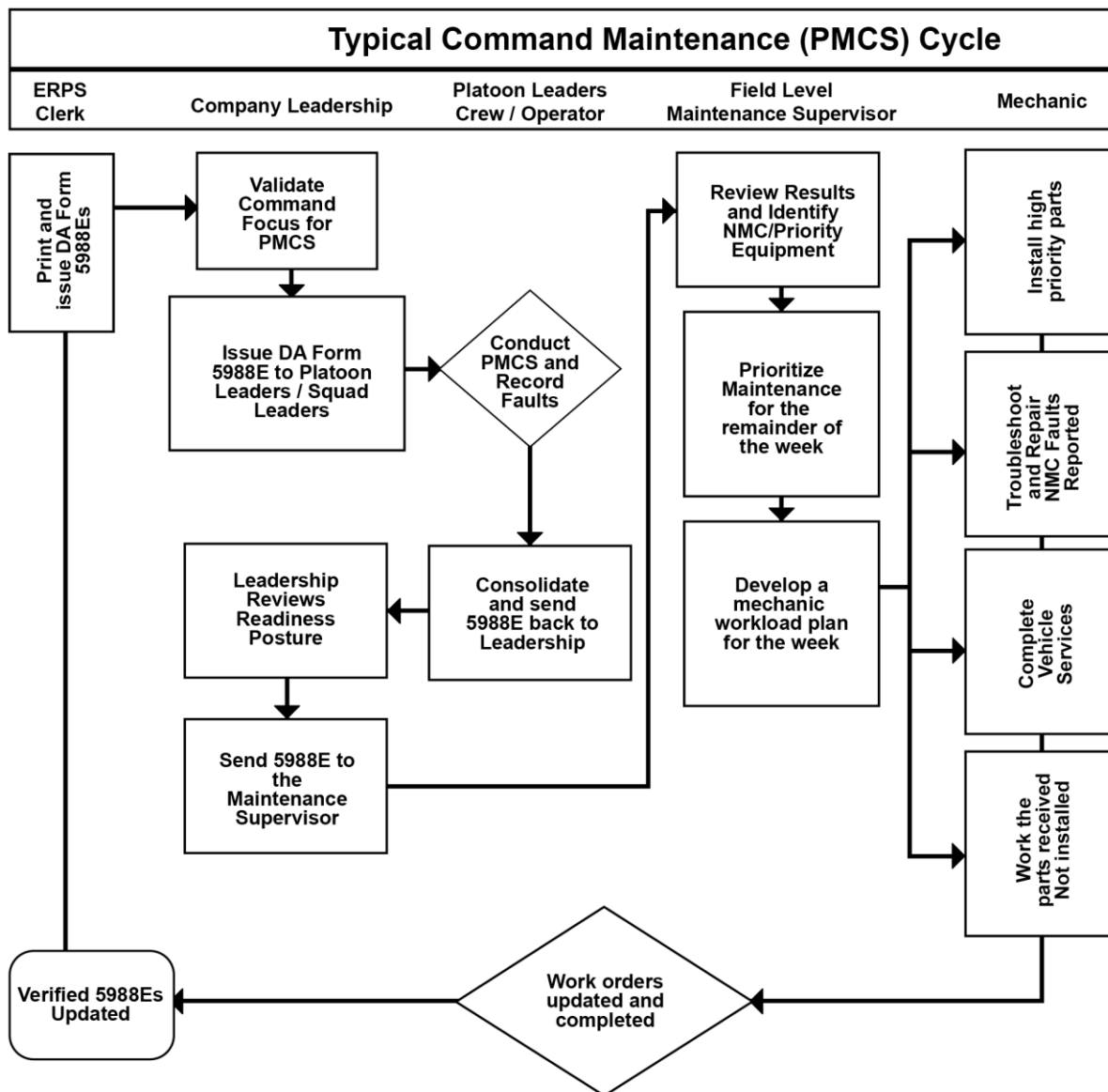


Figure 4–1. Repair flow of a field level maintenance fault

4–3. Maintenance and supply procedures at the organization or unit level

a. Commanders, leaders, and supervisors will emphasize the importance of establishing and implementing effective maintenance and supply procedures in all Army units.

b. Army policies are expressed in general language and often establish broad goals and objectives. Army procedures are more specific and help Soldiers implement policies. DA Pams and standard operating procedures (SOPs) provide detailed, step-by-step guidelines and successful methods for achieving policy objectives. For a unit or organization to have a successful and effective maintenance program, the unit will establish and follow maintenance and supply procedures along with local SOPs.

c. Division and below units performing maintenance are required to have a maintenance SOP signed by the unit commander. Corps and above will have a supplement to policy for their organization that provides additional details or specific instructions that elaborate on Army policy.

4-4. The Army maintenance management system and standard logistics information system

Commanders, leaders, Soldiers, and their supervisors will be trained on the Army maintenance system. TELS are enablers to assist commanders in accomplishing their mission and achieving the maintenance standard. This procedural guidance provides information and assistance to Soldiers.

- a. Leaders will track maintenance actions that are ongoing using the TELS to ensure accurate records.
- b. Digital data transfer devices include optical and electromagnetic scanners, radio frequency identification devices, and electronic contact sensors. These devices use automatic identification technology (AIT) to capture data from equipment and feed the data to the TELS.

4-5. Managing the battalion (or company) maintenance program

a. Managing maintenance operations.

(1) The TELS will provide a record of all completed daily workload to commanders, maintenance leaders, and supervisors. These records are the foundation for directing unit maintenance priorities toward meeting operational readiness rate requirements and achieving the maintenance standards for assigned equipment. Details of these records will indicate where the priority workload is and how organization manpower and materiel assets are allocated. Commanders will use the basic mission metrics of total logistics response time-maintenance (TLRT-M) and TAT in modularized organizations in accordance with AR 750-1 and this pamphlet. Commanders will also use the metrics in paragraph 2-4 to manage exclusively the MAC code F capable element in commands.

(2) On a priority basis, commanders and leaders will focus on uncorrected faults found on individual equipment. The maintenance TELS software records uncorrected faults from DA Form 5988-E.

(3) GCSS-A Plant 2000 contains business processes for field maintenance operations. Refer to the GCSS-A End User's Manual Plus (EUM+) for job aids related to maintenance procedures. Maintenance procedures are established to assist commanders and maintenance leaders in workload prioritization, scheduling, inspection, maintenance, and repairs. These procedures outline how to report, request external support, and record equipment maintenance, services, and repair work. They also help determine the status of equipment for readiness, equipment use, and logistics reports. Some of the more frequently used maintenance forms and reports include the following:

- (a) DA Form 5988-E.
- (b) DA Form 5990-E.
- (c) T-Code Z_EQUST "Equipment Status Report (ESR)."
- (d) T-Code IW49N "Display Orders and Operations."

(4) See GCSS-A EUM+ for a list of commonly used Plant Maintenance (Plant 2000) GCSS-A transaction codes.

(5) Commanders will ensure that maintenance personnel monitor and track compliance with Maintenance Messages published in the Modification Management Information System (MMIS).

(6) Maintenance leaders will assign fault correction, PMCS, and other service tasks using DA Form 5988-E as a working document for the Soldier and record all work performed on DA Form 5990-E. The DA Form 5988-E serves as the equipment fault correction record.

(7) When TELS is unavailable, units will revert to manual forms.

b. Managing total logistics response time-maintenance.

(1) Commanders will use TELS to manage TLRT-M.

(2) Commanders will take action to obtain support and return equipment to serviceability. TLRT-M is the period of time that elapses between the time an item of equipment or component becomes unserviceable and the time the item or component is returned to a serviceable status, after receiving requested maintenance repair or services.

(3) The TLRT-M countdown begins when a notification is opened in TELS. The unit has 2 calendar days to deliver the item for field level repairs or to the designated maintenance activity for repair. Once the equipment is received on a WO from the owning unit, the TAT clock starts for the field level repairs, whether the provider is internal or external to the requesting organization. TAT standards depend upon which MPD the requester lists on the WO. TAT is the period from acceptance of a WO to closeout but does not include time awaiting pickup. A monthly metric report provides average TATs for WOs completed by Source of Repair (SOR). TAT metrics ratings are calculated by dividing average TATs for a SOR by the TAT national average (for national item identification numbers repaired at the SOR).

(4) TAT requirements associated with MPD for COMPO 1 and mobilized COMPO 2 and 3 are listed in table 2-2.

(5) TAT requirements associated with MPD for COMPO 2 and 3 in a non-mobilized status are listed in table 2–3.

(6) When an NMC deficiency is found on a piece of equipment, COMPO 1 is allowed no more than 3 days in A status, COMPO 2 & 3 is allowed no more than 15 days in A status.

c. Managing historical maintenance records. There are two primary locations for unit historical records.

(1) Electronic forms in TELS and manual forms are stored within the unit. These records show the receipt, operation, maintenance, modification, transfer, and disposal of equipment. These records assist commanders in maintaining maintenance standards and achieving operational readiness rates.

(2) The second location is in the Army Enterprise Portal. AESIP is a database with the capability of storing and manipulating logistics data for Army wide or individual unit management.

d. The unit Commander's Drivers Training Program.

(1) Drivers Training is a commander's responsibility and managed by G–3/S–3. Properly trained operators and supervisors have a direct impact on the overall unit maintenance program.

(2) Commanders are responsible to screen, train, license, and supervise Soldiers who are selected as trainers, examiners, operators, drivers, and users.

(3) Commanders must ensure that preventive or corrective maintenance is performed in accordance with TMs and under the supervision of trained leaders.

(4) AR 600–55 provides the basic requirements for the Army Driver and Operator Standardization Program (Selection, Training, Testing, and Licensing). TC series 21–305 and TC series 21–306 contain more details.

(5) DA Form 5984–E (Operator's Permit Record (EGA)) or Optional Form (OF) 346 (U.S. Government Motor Vehicle Operator's Identification Card) is the equipment operator's permit or driver's license. The operator must carry it when operating Army equipment. Vehicle or equipment operators retain the card to identify vehicles and types of equipment they are qualified to operate.

e. The dispatch and control process. The commander will designate a school trained ERPS clerk that will manage and control equipment dispatch encompassing:

(1) Equipment usage documentation.

(2) Purpose of use, location, and duration.

(3) Ensure operator is qualified to operate equipment.

(4) Operator/Crew PMCS equipment to the Army maintenance standard.

(5) DA Form 5987–E (Motor Equipment Dispatch (EGA)), DA Form 5987–1–E (Motor Equipment Dispatch - Alert (EGA)) or DD Form 1970 (Motor Equipment Utilization Record), and DA Form 2401 (Organizational Control Record for Equipment) (only when automated dispatch is not possible) is a record of motor equipment use. It is required for all equipment being dispatched. It will be utilized to identify equipment data operator supervisor assignment and capture all measuring points during operations.

(a) Miles.

(b) Hours.

(c) Fuel consumption.

(d) Petroleum, oil, and lubricants (POL) consumption.

(6) DA Form 5982–E (Dispatch Control Log (EGA)).

f. Types of dispatch.

(1) Normal dispatch. A normal dispatch is signed by a company commander or designated representative for a period of up to 7 days. This allows commanders to dispatch equipment for a week of operations. Only one driver and one vehicle commander can be allowed on a single dispatch. An alternate user may be manually entered on a dispatch for use once license verification has occurred. The same driver may not be used on multiple dispatches. An extension needs to be added to use the dispatch longer than 7 days.

(2) Field or training dispatch. A field or training dispatch is signed by a company commander or designated representative for the full length of the exercise plus the recovery time on the dispatch. This type of dispatch exceeds the 7-day period of the normal dispatch. These types of dispatches are not used for day-to-day on-post operations. Using the dispatch for longer than the scheduled period requires an extension.

(3) Extended dispatch. An extended dispatch is signed by a battalion commander or designated representative. Extended dispatches are for periods when the dispatch period has ended but the vehicle is unable to return to be closed and given a new dispatch. This typically needs to happen during field operations when a scenario keeps the vehicle in use away from the unit for an additional period. Extended

dispatch should only be used to return the vehicle to the unit within a set period of time. Local SOP needs to outline how many days a battalion commander can authorize an extended dispatch.

(4) Alert dispatch. Alert dispatches are used for emergencies or specific training events where the unit needs to move out rapidly. Alert dispatches are printed from GCSS-A and stay on file until used. Battalion commanders can authorize the use of alert dispatches and company commanders sign the dispatches when authorized for use. It is important to note that using an alert dispatch will bypass GCSS-A and the quality assurance/quality control (QA/QC) process by maintenance. GCSS-A will not allow operators to dispatch equipment for which they are not trained.

4-6. Standard operating procedures

Division and below units performing maintenance are required to have a maintenance SOP signed by the unit commander. The maintenance SOP may be an annex to the unit's SOP, an annex to the unit's logistics SOP, or a standalone document. The purpose of the SOP is to describe how a unit performs maintenance on weapons; vehicles; communication equipment (CE); chemical, biological, radiological, and nuclear (CBRN) gear; and other individual and unit equipment. The unit maintenance SOP will be written in enough detail to inform personnel on how maintenance is accomplished in the unit. All personnel will review it during in-processing. The SOP will contain both supported and organic maintenance according to the unit's structure and capability. See appendix D for details on what the maintenance SOP should cover at a minimum.

4-7. Army Equipment Services Optimization Program

The Army Equipment Services Optimization Program (AESOP) transitions scheduled maintenance intervals from time-based to usage-based.

a. General Guidance.

(1) AESOP criteria does not relieve commanders of the responsibility to properly maintain assigned equipment nor negate command maintenance responsibilities such as operator/crew PMCS or routine inspections by leaders, Soldiers, or maintenance personnel.

(2) There is no requirement to perform a higher-level service on equipment prior to implementing AESOP.

(3) Optimized service schedule begins from the date of the last performed and recorded equipment service.

b. Operator PMCS requirements or intervals will not be affected by AESOP.

c. Revised maintenance plan intervals will be disseminated to the field for all fleets assessed in the AESOP through the Army equipment safety and maintenance notification system (AESMNS) process via maintenance action messages (MAM) and the updated equipment TM with approved usage-based service intervals. The following equipment sets are exempt from AESOP—

(1) Army Prepositioned Stocks (APS).

(2) Training sets used by rotational units at the combat training centers, national training center, joint readiness training center, joint multinational readiness center, joint pacific multinational readiness center, opposing force sets maintained by contract support at the training centers.

(3) Other equipment sets with an exception to policy approved by the DCS, G-4.

d. Commanders ensure:

(1) Utilizing equipment is fundamental to the readiness of the fleet. Utilizing equipment lubricates seals and gaskets, reduces seal deformation, affirms readiness, and charges batteries. Credit for fleet utilization can be achieved through routine mission support, exercises, and training. Fleet utilization must be achieved in one continuous operation. Trailers will be exercised with the prime mover. Utilizing engine-driven equipment should be done to maximize the benefits.

(2) All service, lubrication, spot-painting, and application of CIC tasks in the applicable equipment TMs, LO, TM 43-0242, TB 43-0213 and TM 43-0243 are performed.

(3) All hydraulic systems on vehicles, construction equipment, engineer equipment, wreckers, materiel handling equipment, and combat systems are exercised bimonthly to reach operating temperature and ensure serviceability.

(4) Power generation equipment, air compressors, support equipment, pumps, and power-driven CBRN equipment are exercised every 90 days (COMPO 1) and every 120 days (COMPO 2 and 3) to reach operating temperature and ensure serviceability (30-minutes under load) confirming systems are FMC.

(5) Equipment usage data must be accurately input by the unit ERPS Clerk into GCSS-A.

4–8. Low Usage Program procedures

a. Equipment not identified in the AESOP may be placed in the low usage program (LUP) at the commander's discretion if it meets the low-usage criteria. To determine if your unit's equipment qualifies for low-use maintenance, calculate the low usage target mileage/hours by using the criteria prescribed in paragraph 4–8g. Compare the actual (accumulated mileage/hours and forecasted training or operational use miles/hours) for an individual piece of equipment against the low-use target mileage/hours calculated below. If the equipment item's forecasted actual mileage/hours will be less than or equal to low-use target mileage/hours, then it qualifies for the low usage program (LUP).

b. The date, miles, kilometers, or hours when the equipment was placed into low-usage status will be entered into the TELS.

c. If the equipment is identified as exceeding the specified criteria, the equipment will be immediately returned to a normal scheduled service interval in accordance with the TM/LO at the date and usage data that was entered in TELS.

d. Servicing, evaluating, and exercising recoil mechanisms and gun tubes will be done in accordance with the applicable TBs and TMs.

e. Communications and other subsystems mounted on equipment in low-usage status will be serviced when the primary system is serviced. Communications security (COMSEC) equipment must be serviced and repaired by trained and CE technicians, in accordance with AR 25–12.

f. Low-usage equipment service standards do not apply to armament subsystems, equilibrating systems, fire control components, sighting components of combat vehicles and missile systems, or air traffic control equipment.

g. Specific criteria for equipment being placed in a low-usage status are—

(1) Light tactical vehicles, trailers assigned to prime movers, and trailers without assigned prime movers that accumulate or are anticipated to accumulate fewer than 3,000 miles/4,800 kilometers in a 12-month period.

(2) Heavy tactical vehicles that accumulate fewer than 1,200 miles/1,935 kilometers in a 12-month period.

(3) Combat vehicles (except armament, equilibrating system, and fire control components and sighting components), missile systems (except fire control components), material handling equipment, and construction equipment anticipated to accumulate fewer than 500 miles/800 kilometers or 125 hours in a 12-month period.

(4) Power generation equipment, pumps, air compressors, support equipment (reverse osmosis water purification units, bath units, and so on), watercraft, rail equipment, power-driven nuclear, biological, and chemical (NBC) equipment (for example, decontamination apparatus), engine-driven heaters, and air conditioners anticipated to accumulate fewer than 75 hours of operation in a 12-month period.

(5) CE anticipated to accumulate fewer than 75 hours of operation in a 12-month period. The remaining CE equipment, such as ground/vehicle mounted radios, switchboards, and individual night vision goggles, will be serviced annually if they are anticipated to accumulate fewer than 75 hours of operation in a 12-month period.

(6) Non-power driven CBRN equipment anticipated to accumulate fewer than 75 hours of use in a 12-month period.

(7) Tentage and canvas items, immersion heaters, field ranges, and space heaters or stoves that are not used in a 12-month period will be serviced or assembled annually.

(8) Small arms and crew-served weapons (machine guns and mortars) that are maintained in a humidity-controlled area and not removed for any reason at any time during the year will be serviced annually.

h. All equipment, except that stated in paragraphs 4–8g(7) and 4–8g(8), will be exercised quarterly.

i. Operators and crews will—

(1) Perform a monthly PMCS check (before, during, after, weekly, and monthly), in accordance with the TM.

(2) Drive tactical vehicles with trailers (minimum 10 miles) to exercise seals and ensure mission capability.

(3) Operate construction equipment, engineer equipment, wreckers, materiel handling equipment, and combat vehicles with hydraulic systems to reach operating temperature and ensure mission capability.

(4) Operate power generation equipment, air compressors, support equipment, pumps, and power-driven CBRN equipment to reach operating temperature and ensure mission capability. Recommended duration is 30 minutes under load or 60 minutes without load.

- (5) Inspect small arms and crew served weapons for rust and corrosion.
- (6) Conduct visual inspections to identify and remove corrosion that may have formed. Inspections may be required more frequently in geographical regions where high humidity is normally present.
- (7) Remove corrosion that is found during inspections and ensure preventive measures are taken to inhibit future corrosion.

4-9. Technical inspections

A technical inspection (TI) is a visual check performed on a piece of equipment to verify it meets the specifications and conditions required by the Army maintenance standard. TIs are performed upon receipt, prior to and after repair is conducted, evacuation, turn-in of unserviceable end items, or as directed to determine equipment's serviceability. See AR 750-1 for policy on TIs. The following procedures are mandatory.

- a. The first step of the TI process is to determine if the piece of equipment is on the Master Divestiture List and requires mandatory turn-in. In accordance with AR 220-1, equipment items that have been formally designated obsolete will not be considered in S-level calculations. Obsolete items have a logistics control code of S or O.
- b. The TI documentation will accompany the applicable turn-in documentation to the managing Life Cycle Management Command (LCMC).
- c. Sanitization is when a technical inspector discovers or suspects that biohazards, including human body tissue or fluids, are on an equipment item. The technical inspector will determine the level of effort required to properly clean and return the equipment to the Army maintenance standard. This includes agricultural inspection, health, and safety standards. If the field maintenance unit has the required medical protection equipment and soap, water, or a high-pressure washer or steam cleaner, the field maintenance unit will clean the equipment. Preventive medicine teams will supervise the sanitizing performed by the field maintenance units who will continue with required repairs once the equipment sanitization is complete. Do not use high pressure or steam cleaning on aircraft systems or subsystems. Refer to TM 1-1500-344-23-2 for biohazard cleaning of aeronautical systems.
- d. Commanders will determine how much time and resources to devote to sanitization efforts based on the mission, enemy, terrain and weather, civil considerations, and other factors.
 - (1) To accomplish this task, brigade, or equivalent staffs will coordinate for mortuary affairs, preventive medicine teams, and local chaplains to augment field maintenance units, as required.
 - (2) If the technical inspector determines that the level of effort exceeds available time, manpower, or other resources, the WO will be closed, and the equipment will be coded "H" or "P" then sent to the local supply distribution point for retrograde to the designated maintenance activity capable of performing equipment cleaning, disassembly, or reassembly.
- e. When a technical inspector at the field or sustainment maintenance level detects other than fair wear and tear damage on an end item/Class VIII/IX component, the technical inspector will—
 - (1) Document in detail the other than fair wear and tear damage on DA Form 5988-E, DA Form 2404, DA Form 461-5 (Vehicle Classification Inspection), or DA Form 2408-13-3 (Aircraft Technical Inspection Worksheet).
 - (2) Forward the form to the battalion or equivalent-level commander of the unit that initiated the WO.
 - (3) The commander will determine if further action will be taken under the provisions of AR 735-5.Damaged property will be released for repair or turn-in as soon as the technical inspector has physically examined the damaged property and the assigned investigating officer has released it. The repair or turn-in of a damaged end item or component will not be started until AR 735-5 requirements are satisfied.
- f. When the owning unit suspects the damage was caused by negligence or willful misconduct, a WO must be completed and will accompany the end item/Class VIII/IX component to the SOR for an estimated cost of damage (ECOD) assessment. After completion of the ECOD, the end item/Class VIII/IX component will be turned in or a WO for repair will be created as soon as possible, in accordance with AR 735-5.
- g. When the TI supports an investigation of financial liability and actual costs cannot be determined, inspectors will prepare an ECOD. See AR 735-5 for basic policy guidance on preparing an ECOD in support of DD Form 200 (Financial Liability Investigation of Property Loss).
- h. Use a DA Form 5988-E, DA Form 2404, DA Form 461-5, or DA Form 2408-13-3 to record the results of TIs.

i. ECOD or actual cost of damage (ACOD) are processes used to estimate costs to Government owned equipment prior to repair or turn-in of unserviceable end items or components.

j. An ACOD calculation follows if required—

(1) An ECOD may be requested by the owning unit commander or may be provided to the commander by the maintenance activity in the absence of a specific request. Upon TI by the maintainer and verified by a designated technical inspector, it is determined that damage to the equipment is other than fair wear and tear.

(2) Use DA Form 5990–E or DA Form 2407 to initiate a WO to perform an ECOD.

(3) The commander or equivalent is the sole authority for determining the circumstances of the damage and to assess whether willful misconduct or negligence occurred. If willful misconduct or negligence is suspected, the commander will initiate a DD Form 200 to formally investigate and decide as to pecuniary liability for the damage.

(4) If the cost of repair exceeds the maintenance expenditure limit (MEL), use the MEL value to compute the amount of loss to the government. The MEL is the maximum amount limit that can be spent on an item's one-time repair to return it to the Army maintenance standard.

(5) Repair costs for ECODs are based on the costs necessary to return materiel to a serviceable condition.

(6) Disposition of materiel is the responsibility of the owning unit and the supply support activity (SSA) accountable officer. For procedures on the disposition of uneconomically repairable materiel by supply activity, see AR 710–4.

4–10. Quality assurance/quality control

QA/QC is a system-based list of verifications and validations that are performed by trained maintenance personnel on equipment. Records should be kept on file for 1 year. Units will establish a QA/QC program and develop training standards for personnel conducting QA/QC.

a. Technical inspectors are part of the QA/QC program.

b. Local SOP determines which checks and validations occur in the form of a QA/QC list.

c. A TI needs to be conducted in the form of a QA/QC for the following conditions:

(1) The fault is repaired, and the WO is closed.

(2) Parts are installed.

(3) Property is turned in.

(4) Service is completed.

(5) ECOD and ACOD are required.

d. Technical inspectors need to know what the MELs are in accordance with the equipment type in accordance with paragraph 4–12, AR 750–1, and TB 43–0002 series.

4–11. Verification inspections procedures

a. Verification inspections of major end items ensure the accuracy of a TI when it results in an unserviceable, uneconomically repairable Condition Code (CC) of H or P. For policies regarding TIs see AR 750–1.

b. The recording of a verification inspection will be done by typing or stamping a statement on the DA Form 2404 or DA Form 5988–E. The required data elements are as follows:

(1) Organization of the verifying inspector.

(2) Inspector's name and grade.

(3) Date of inspection.

(4) Signature of inspector.

c. Major end items with CC of H or P that fail a verification inspection will be referred to the maintenance officer with the corrected Classification. The maintenance officer will determine further action required to repair the item.

d. When determining/verifying CC H (Unserviceable Condemned), technical inspectors will ensure that the item being classified is in fact not repairable at any level of maintenance (to include depot or special repair activity) or otherwise meets the definition of CC H in accordance with AR 725–50. When the reparability of the item cannot be conclusively determined, do not use CC H.

4-12. Maintenance expenditure limit

For policy regarding MEL for tactical vehicles and process to request exception to MEL policy see AR 750-1.

a. MEL is the total acceptable cost to repair an end item or repairable component to a fully serviceable condition as prescribed in the appropriate TM. Current MELs and MEL procedures are listed in the TB 43-0002 series, TB 750 series. The managing LCMC should be contacted if unsure of the current MEL. There may be instances when the MEL for a major end item has changed, and the change has not yet posted in either TB 43-0002 series or the TB 750 series.

b. MEL computation is only required under specific conditions. MEL is only required if the item being repaired is excess to unit needs, has been accidentally damaged, or is intended to be repaired by higher level maintenance on a return-to-user basis (see paras 4-12i and 4-12j(4)). The following procedures are mandatory (see AR 750-1).

c. Determine the unit price by: For end items, use the standard price. The price used must be for the exact model of the item that is being repaired. Substituting different models is not allowed.

d. Field level maintenance will use the standard price for any repairable secondary items that are repairable at the field level.

e. Sustainment level maintenance will use the last acquisition cost from the LMP for repairable secondary items.

f. Include local/geographical costs when calculating overhead and labor costs.

g. The cost to repair includes materiel, including procurement appropriations funded materiel directly applied to the equipment undergoing repair.

(1) The cost of consumable items received from the supply system may be set as billed by the supply agency. If billing information is unavailable, the cost of consumables is set at the standard inventory price. Items procured from local sources are priced at the latest invoice cost. Cost of items fabricated will be based on actual cost. If the actual cost is unavailable, engineering estimates, including indirect expenses will be used.

(2) The cost of Government-furnished materiel expended by a contractor in performing all or part of the repair will be the standard inventory price.

(3) The cost of replacement components and assemblies used in the repair process will be set at the standard inventory price. Credit is taken for the return of the repairable component in the amount equal to the current standard inventory price less the estimated cost to repair the component.

(4) Do not include freight costs if the equipment can be repaired on-site and is continental United States (CONUS). If the equipment to be repaired is located outside the continental United States and no local capability to repair exists, the cost of freight to CONUS will be included as an element of cost. The cost of freight will include transportation and handling costs from point of use to designated CONUS point of repair.

(5) When equipment cannot be repaired on-site and costs are incurred to prepare the equipment for shipment, such costs (including materiel) will be included in the estimate of cost to repair regardless of origin or destination.

h. Miscellaneous repair costs include contractual services acquired incidental to and identifiable with the performance of all or a portion of the specified repair. All costs directly identifiable with the equipment will be included unless listed in paragraph 4-12j.

i. Operating expenses include scheduled maintenance plans and repairs can be accomplished by the using organization, including repair parts. These costs will be included when the item being repaired is excess to unit needs, was damaged accidentally, or is repaired by higher level maintenance on a non-return basis.

j. Do not include the following costs in the cost to repair estimate:

(1) Replacement of basic issue list items.

(2) The labor cost of applying MWOs.

(3) The cost to overhaul or replace accessory items used to adapt equipment for special uses, including such items as rank insignia, winterization kits, flashing lights, two-way radios, tool kits, and similar items. Cost estimates to overhaul such items will be made as needed.

(4) Operating expenses, when the item being repaired is not excess to unit needs, has not been accidentally damaged, or is repaired by higher level maintenance on a return-to-user basis including national stock numbers (NSNs) listed on the organization and support maintenance repair parts and special tools list.

- (5) The cost to replace missing tools for those sets, kits, and outfits that are subject to MEL.
- (6) Cost of any pending maintenance plan.

4-13. Turn-in procedures for serviceable excess and unserviceable repairable parts and components

The following procedures are mandatory in accordance with AR 750-1:

a. Field maintenance activities will initiate a turn-in action for unserviceable, serviceable, and not repairable this station (NRTS) repairable items and assemblies to the SSA within 10 working days of identification, classification, and removal from the end item in accordance with AR 710-4.

b. Sustainment maintenance activities will initiate a turn-in action for unserviceable, NRTS repairable items, and assemblies to the SSA or comply with disposition instructions within 10 working days of identification, classification, and removal from end item.

c. For expedited local processing, cleaning, preservation, and preparation for shipment, the following actions apply:

(1) *Steam cleaning.* Steam cleaning of major assemblies and components is not required at any level below installation. Steam cleaning is not required at the installation level for assemblies repaired at the depot. Any cleaning to facilitate diagnosis or repair will be done in accordance with applicable environmental regulations. The organization that performs this maintenance is responsible for the steam cleaning, if required for overhaul/rebuild of the assembly. The only authorized exception to this procedure is when steam cleaning is required to meet agricultural inspection standards. Aviation equipment will be cleaned only according to TM 1-1500-344-23-2 and aircraft specific manuals.

(2) *Lubricants.* Local SOPs, U.S. Environmental Protection Agency, OSHA, local, and state laws must be followed.

(3) *Shipping.* Major assemblies and components will be shipped under transportation priorities applicable to the supply priority designators and procedures prescribed in AR 725-50.

(4) *Packaging and preservation actions.* In accordance with DA Pam 700-32.

(5) *Inspections.* After the initial inspection is performed by the supporting field/sustainment maintenance activity, intermediate supply activities will not require additional classification inspections. If items are not immediately shipped, instead put into storage, begin care of supply in storage (COSIS) inspection frequencies according to AR 740-3.

(6) *Movement and movement control.* When possible, the major assembly or component will be shipped directly to the repairing activity in accordance with AR 725-50.

d. The repairing activity will report any missing parts and damage-in-shipment discrepancies using established discrepant shipment procedures in AR 725-50. Inconsistencies between the repairing facility's classification inspection and the initial classification inspection will be reported back to the shipping organization commander.

4-14. Equipment transfer and turn-in procedures

a. For equipment transfer and turn-in policy see AR 710-4. The procedures in this paragraph are mandatory.

b. Units will use TM-10 and TM-20 series PMCS maintenance standards. ACOM, ASCC, and DRU commanders will provide necessary maintenance resources and assign responsibility for repair of materiel in the ACOM, ASCC, and DRU.

c. Equipment turn-in will follow these special provisions:

(1) Equipment contaminated by human body tissue or fluids will be handled as follows:

(a) When an inspector discovers or suspects that biohazards, including human body tissue or fluids, are present in/on an equipment item, the inspector will immediately stop the inspection to—

1. Determine the level of effort required to clean the equipment to return it to the Army maintenance standard.

2. If the level of effort is small (time and manpower are available) and proper medical protection equipment and supporting resources are available, the field maintenance unit will clean the equipment under the supervision of preventive medicine teams.

3. If the level of effort exceeds the available time or if proper medical protection equipment or supporting resources are not available, the inspector will close the WO using a work request status code of X.

4. Place an appropriate CC on the equipment WO writing the words "Not Repairable This Station Cleaning Required" in the remarks block.

5. Write the word "Sanitize" using white or yellow chalk or paint on the side of the equipment in large 12-inch block letters.

6. Turn-in to the local supply distribution point for retrograde to the designated maintenance activity capable of performing cleaning, disassembly, and reassembly.

(b) Cleaning of equipment will be accomplished by a field or sustainment maintenance unit/activity with the capability to assemble, disassemble, and clean equipment. Commanders will plan to augment field and sustainment maintenance units/activities with military manpower, mortuary affairs teams, preventive medicine teams, and local chaplains as required.

(2) Equipment selected for repair in depot maintenance facilities will arrive at the depot repair site in the same condition of serviceability as when originally selected (TI performed and recorded on DA Form 5988-E, DA Form 2404, or DA Form 2408-13-3) for induction into depot maintenance programs. AMC major subordinate commands (MSCs) commanders will conduct depot maintenance evaluations/TIs and will use them for programming depot maintenance workloads and related purposes.

(a) COMPO 1 APSR (property book) items and other end items of equipment that have been inspected, evaluated, and accepted as candidates for induction into AMC depot maintenance programs will be promptly turned into the supporting Forward Distribution Point (FDP) Supply Support Activity (SSA) via a supply transaction, according to the disposition instructions. These instructions will be provided via AMC's Lead Materiel Integrator Decision Support Tool (DST).

(b) COMPO 2 and 3 property book items and other end items of equipment that have been inspected, evaluated, and accepted as candidates for induction into AMC depot maintenance programs may be inducted into the AMC depot as either a supply or maintenance transaction in accordance with specifications of any applicable memorandums of understanding and within the provisions of DoD Instruction (DoDI) 1225.06.

(c) In cases where the depot candidate item cannot be promptly shipped to the depot repair site for immediate induction, the unit commander may retain custody/operational use of the accepted item. In such cases, the owning or custodial commander will perform corrective actions at the receiving/handoff site to ensure equipment is in the same condition as reflected by the record copy of acceptance as required in AR 750-1. To ensure that these candidate items are in the same condition of serviceability, the equipment being turned in will be reinspected for acceptance by the receiving command, or appropriate agency, a minimum of 90 days prior to turn-in. This re-inspection will be based on the original qualifying inspection noted in AR 750-1.

(d) Cannibalization of depot maintenance candidate items and controlled exchange of component parts by field organizations is prohibited. Exceptions will be made only in urgent cases of field operational readiness requirements and then only with the written concurrence of the AMC MSC commander.

(3) Tactical wheeled vehicles identified as excess to unit APSR or as candidates for cascade to RCs must have AMC item manager disposition instructions for turn-in to the DLA-DS in addition to MEL documentation.

(4) Equipment used for base operations or for the original purpose operator or crew training will meet the transfer or turn-in standard in accordance with AR 750-1.

(5) Turned-in materiel staying in the physical custody of units but on the property accounts at FDP SSA or higher levels will not be scheduled for repair or maintenance services unless directed by the command having property accounting responsibility. Commanders will ensure that these items are not cannibalized or involved in controlled exchange without prior authorization from the national inventory control point.

(6) Items found on installation may be turned into the supporting SSA in an as-is condition; however, commanders will take responsible action to maintain the value, utility, and security of government property while it is in unit custody. COMSEC equipment found on post, including controlled cryptographic items, requires the submission of a COMSEC incident report in accordance with AR 380-40 and an AR 15-6 investigation in accordance with AR 735-5.

4-15. Logistics Assistance Program

a. AMC manages the worldwide Logistics Assistance Program. Each AMC, LCMC, and Army Sustainment Command (ASC) provides technical and logistical assistance to the field for maintenance and commodities of equipment in accordance with AR 700-4.

b. Logistics assistance representatives (LARs) perform such assistance services as:

(1) Tracking down the exact status of a critical requisition.

(2) Finding a critical part, module, or subassembly.

- (3) Helping to resolve systemic supply and maintenance problems.
- (4) Providing assistance on warranty issues.
- (5) Coordinating and conducting specialized training on the maintenance of equipment.
- (6) Providing on-site technical assistance when needed.
- (7) Spot checking total package fielding for the LCMC.
- (8) Assisting maintenance personnel with identifying and fixing complex equipment problems.
- (9) Assisting units to obtain and expedite critical parts.

c. LARs are the technical building blocks of the Army field support brigade (AFSB) consisting of DA Civilians with specialized training on specific supported equipment. LARs provide systems-oriented supply and maintenance technical assistance to Army units. LARs have substantial experience on the equipment they support and provide answers to maintenance, training, supply parts, and operational readiness questions. LARs take an active role in educating and training Soldiers and may perform hands on maintenance to resolve unique readiness situations, or to effect substantial cost savings, subject to approval of the appropriate LCMC. LARs belong to their specific LCMC but are attached to AFSB/AFSBns. See ATP 4-98 for list of LARs.

d. AFSBs are the forward command and control teams representing AMC through ASC that have been designated to supervise and coordinate in-theater support provided by AMC activities.

4-16. Managing unit and organization repair parts and maintenance-related supplies

Army units must be able to independently sustain maintenance operations for brief periods. Army policy requires commanders to establish and maintain limited quantities of supplies.

a. AR 710-2 outlines Army policy for managing individual elements of shop and bench stocks. Commanders will develop an overall listing of repair parts assets in accordance with supply policy in AR 710-2.

b. Maintenance and supply managers will conduct quarterly shop stock listing reviews and inventory using the TELS and in accordance with AR 710-2.

c. Maintenance providers will maintain shop stock listings when not co-located with an SSA. Under co-location conditions, supplies must be made accessible within minutes of the supply requirement. These conditions apply equally to MTOE or TDA organizations.

d. Bench stocks must be available in all maintenance operations.

e. Repair parts needed to complete repairs and not available from shop stock listings will follow AR 710-2, with issue priority designator consistent with the MPD.

4-17. Army maintenance management system

a. Leaders and commanders will ensure that supply and maintenance team members are cross-trained.

b. Maintenance Supervisors will conduct the following operations:

(1) Record data from equipment inspections and fault correction worksheets within GCSS-A. Ensure appropriate codes such as cause codes, fault codes and object part codes are utilized from equipment inspections and fault correction worksheets (see DA Pam 738-751 and GCSS-A EUM+).

(2) Record data on work referred to support maintenance (see DA Form 2407).

(3) Record equipment faults that could not be corrected that day (see DA Form 5988-E).

c. When the operator finds equipment faults that cannot be repaired by the operator, the ERPS clerk records it in TELS. The DA Form 5988-E generated by TELS includes both uncorrected faults and parts ordered. This alerts the equipment operator and unit leaders of the current condition of the equipment. When an operator/crew identifies an NMC fault, they will notify unit maintenance immediately. Unit maintenance will verify the NMC item and initiate repair actions in accordance with AR 750-1 and the appropriate TMs. When an equipment operator/crew identifies an NMC fault, unit maintenance will coordinate with the operator/crew for verification and corrective actions in accordance with AR 750-1 and appropriate TMs. Once the unit completes all corrective action, the clerk will update DA Form 5988-E or DA Form 2408-14 (Uncorrected Fault Record) with the new information.

d. Unit maintenance personnel will conduct maintenance and supply operations in accordance with applicable ARs, DA Pams, and local SOPs.

4-18. Using supply support activity to support maintenance operations

The SSA provides Class VIII/IX and other supply support to assigned units and transient organizations on an area support basis. Stock quantities are based on consumption/demand history in accordance with AR 710-2. Parts are issued in accordance with unit assigned priorities. If stock is not available, the SSA will establish a due-out status to the unit and pass the requirement to the national level supply for procurement (see AR 710-4).

4-19. Controlled exchange

a. Controlled exchange is the removal of serviceable components from unserviceable, economically repairable end items for immediate reuse to restore a like item or weapon system to an FMC condition. Controlled exchange is authorized only when—

(1) Required components are not available from the source of supply within the timeframe reflected by the issue priority designator.

(2) A valid requisition is submitted to replace the unserviceable item.

(3) The maintenance effort required to restore unserviceable repairable material involved is within the MAC authorization and the capability of the unit performing the controlled exchange.

(4) The end item or weapon system from which the serviceable component is removed is classified NMC supply.

(5) Classify serviceable components removed from aircraft as one of the following: NMC supply, NMC maintenance, or partially mission capable (PMC).

(6) Aircraft maintenance manual instructions require that a known serviceable component be temporarily used while troubleshooting. Such components may be temporarily exchanged from an FMC or preventive maintenance check aircraft.

(7) The end item or weapon system will not be degraded to an uneconomically repairable condition.

(8) Protect the end item or weapon system from further degradation in accordance with local policy.

(9) Tag and retain the unserviceable component with the end item or weapon system the serviceable item came from. In addition, record the removal of the component on DA Form 2407 or DA Form 5988-E/DA Form 2404/DA Form 2408-13-3 for the end item or weapon system. This retains the identity and integrity of the repairable end item or weapon system.

(10) The organization performing the controlled exchange takes prompt action to restore the unserviceable equipment to FMC condition.

(11) When a controlled exchange takes place, a requisition must already be in the Army supply system to restore the unserviceable end item or weapon system to FMC.

(12) All the unserviceable repairable materiel involved is owned or under control of the organization performing the controlled exchange.

(13) It is the only means available to eliminate an adverse effect on the operational readiness of the unit, organization, or activity performing the controlled exchange.

(14) Approved by the first O-5 level commander of the owning equipment.

b. During mobilization or combat, ACOM, ASCC, DRU commanders may modify the controlled exchange conditions as deemed necessary.

c. Controlled exchange is not authorized when the investigating officer has not formally released materiel involved in a mishap or AR 15-6 investigation.

4-20. Contractors on the battlefield

See AR 715-9 for additional information.

4-21. Manual readiness reporting

a. Manual reporting is not authorized if EMSR reporting through TELS is available.

b. Page 1 of the completed monthly DA Form 2406 is the historical report on equipment availability over the reporting period. Leaders should review this completed form carefully to ensure its accuracy. Equipment that is non-operational for administrative or safety reasons should also be noted on page 2.

(1) Check DA Form 5988-E/DA Form 2404 against the corresponding DA Form 7957 (Preventive Maintenance Schedule and Record).

(2) Check a specific model and compare the authorized quantity with the MTOE authorization, counting items that make up a system. If a part of a system is NMC, the whole system is NMC. Check AR 700-138

against the MTOE equipment line item number to determine if the correct number and types of systems are included on the report.

(3) Compare the on-hand quantity of an equipment model against the number of copies of DA Form 7957, noting substitute line items. Check the report period to verify the possible days for reporting purposes.

(4) Total the non-available days taken from the copies of DA Form 7957 and subtract from the possible days to verify available days.

(5) Ensure that the non-available days are divided correctly into the supply and maintenance categories.

(6) Compare these numbers to the daily DA Form 2406 and file copies of DA Form 2407.

(7) Request the equipment nonoperational reports to cover a company or battalion-sized units for as many days as needed. The report period for a DA Form 2406 should provide data to match the DA Form 2406 backside. The customer reconciliation report lists all WOs the maintenance organization has in an open status for the unit. The report contains NMC–S and NMC–M time.

c. Submitting service packets. When field maintenance personnel perform scheduled services on a piece of equipment, they will complete and return the following forms as part of the service packet:

(1) A current completed DA Form 5988–E used for field level PMCS with signatures and corrective action initials, which operators are to submit with the equipment to be serviced. DA Form 5988–E must include all actions that were performed. This does not include all checks completed, only actions.

(2) The original DA Form 5988–E used for QA/QC to close out service with signatures and corrective action initials.

(3) An updated DA Form 5988–E with all uncorrected faults and parts required entered in GCSS–A upon completion of the scheduled service.

(4) A copy of the closed DA Form 5987–E, DA Form 5987–1–E, or DD Form 1970 for initial and final road tests upon completion of the scheduled service (for motor vehicles only).

(5) A completed WO as part of service packet (DA Form 2407–E or DA Form 5990–E (Maintenance Request (EGA))).

4–22. Tool program

It is essential to use the proper tools to ensure maintenance is performed correctly. This includes MTOE authorized tools and special tools. Unit leaders will do the following routinely:

a. Maintain tools in accordance with TM 9–243.

b. Check and ensure that authorized MTOE and TM tools are on hand and replace missing tools promptly.

c. Special Tools issued during a new equipment fielding must be cataloged and maintained in the tool room or as part of the standard automotive tool set.

d. Account for, control, and maintain tools in accordance with AR 710–4.

e. Prepare a memorandum for the record for additional duty for an NCO or Soldier who can issue and receive tools. The memorandum will also include to whom the tool room custodian is authorized to issue tools.

f. Ensure TMDE items are tracked.

g. Ensure procedures for sign-out are included in the SOP.

h. This program will be used for any room or area where tools are on hand.

Section II

Field Maintenance Management Personnel

4–23. Maintenance managers

Field level maintenance managers are the officers, warrant officers, and noncommissioned officers (NCO) who plan, organize, direct, coordinate, and control field level maintenance assets and processes. The most influential maintenance manager in a unit is the commander. Most field maintenance operations tasks are performed by the maintenance control officer (MCO), the maintenance chief warrant officer, the maintenance control supervisor (MCS), and the motor sergeant or maintenance team chief in the Forward Support Company (FSC) or organic maintenance element. At battalion and squadron level, the maintenance officer, battalion maintenance chief warrant officer, and motor sergeant are the key maintenance

managers. In some EAB organizations, the battalion S4 has a senior maintenance supervisor position to perform maintenance tracking and management.

4–24. Duty descriptions of maintenance personnel

Each position has specific tasks and management duties to execute the program effectively. Communication, process development, monitoring, and execution are performed at different levels and positions. All leaders should know the duties of the positions above and below their own echelon.

4–25. The maintenance control section

Field maintenance includes two types of maintenance control sections. One is part of the FSC's organization and the other is managed at the base support battalion. The maintenance control section consists of an MCO, a maintenance warrant officer, MCS, ERPS Noncommissioned Officer in Charge (NCOIC), and sometimes a maintenance support NCO. See below for a description of each position.

4–26. The maintenance control officer

The MCO must stay informed of priorities assigned to supported units, expected workloads, shop progress, and maintenance supply status, in accordance with ATP 4–33. For an effective maintenance control operation, the MCO must have a thorough knowledge of the mission of the entire company and the supported battalion. The MCO—

- a. Communicates maintenance datasets and equipment readiness to the chain of command.
- b. Communicates with battalion and FSCs to sync missions and meet commander's intent. Attends battalion command and staff and FSC training meetings as the maintenance advocate.
- c. Pulls required reports from GCSS–A and evaluates the equipment to determine readiness for mission success.
- d. Reviews and communicates maintenance status to the command through maintenance meetings and reports required statistics to support operations. Ensures that the maintenance priorities and workloads are meeting the commander's intent and accomplishes external maintenance tasks assigned from support operations.
- e. Communicates command maintenance status and WO flow to company commanders and executive officers. This includes internal and external maintenance WOs.
- f. Forecasts mission readiness by communicating the ESR and status of parts to the command. Ensures that NMC equipment is accurately captured on the ESR.
- g. Ensures the maintenance platoon mission is synchronized with the battalion maintenance priorities.
- h. Evaluates the overall battalion PMCS program for effectiveness and accuracy. Assesses training and competence level of battalion operators, crews, and maintenance personnel. Develops plans to ensure that training and instruction are provided to meet skill requirements.
- i. Ensures that GCSS–A processes for capturing maintenance actions are being entered into the system properly. This includes fault creation, WOs, ordering parts, scheduling maintenance plans, and opening and closing dispatches.
- j. Assists the commander and platoon leader in planning tactical maintenance support for field operations.
- k. Communicates with external field level maintenance support organizations to receive evacuated equipment status and ensure that work requests are kept to a minimum.
- l. Conducts meetings with commodity shop leaders to ensure WO accuracy and workflow, identify shortfalls, and synchronize shop objectives.
- m. Ensures that sufficient copies of TMs and lubrication orders (LOs) are available for performance of PMCS and field maintenance on equipment assigned by MTOE.
- n. Assess the unit's PMCS program by monitoring NMC deficiencies noted during scheduled services.
- o. If assigned to an organization without internal capabilities to perform field level maintenance, coordinates maintenance requirements for an SMC or external maintenance facility.
- p. Ensures that maintenance support NCOs are assigned to specific dependent units that require maintenance support if performing in an SMC.
- q. Ensures that material requisitions listed in ME5A/ZPARK adhere to local policy.
- r. Acts as the primary trainer for Platoon Leaders on maintenance functions in GCSS–A, reading and pulling their own DA Form 5988-Es and Equipment Status Report (ESR) out of GCSS–A to manage their Platoon readiness.

- s. Ensures that quarterly inventories are conducted and approves in writing bench stock lines.
- t. Enforces recoverable Class IX (CLIX) parts turn-in procedures.
- u. Work in conjunction with the MCS and maintenance warrant officer to ensure TLRT–M standards are being met.
- v. Ensures the platoon/section has required resources to accomplish their mission.
- w. Promotes a safe working environment, adhering to safety procedures, and ensures that all maintenance activities are performed in accordance with TMs and safety notification guidance. Identify training needs, develop training programs, and ensuring personnel are adequately trained to perform their duties. Ensure adequate skill level training and provide maintenance personnel with current information on techniques, procedures, and modifications.

4–27. The maintenance warrant officer

The maintenance warrant officer manages and develops the program and processes, trains personnel, and ensures that the SOP accurately reflects the program. The maintenance warrant officer monitors all maintenance programs, training, and process changes based on productivity and tolerance to inspection standards. The maintenance warrant officer will develop plans to enhance combat power. The maintenance warrant officer will also assist the MCO and platoon leader in the performance of duties and serve as the acting MCO and platoon leader in their absence. The maintenance warrant officer is the expert in the execution of the CMDP. The maintenance warrant officer—

- a. Develops the steps to execute internal, external, process, and program field level maintenance. This is detailed in the SOP and includes all areas that are contained in the CMDP checklist. Makes changes to the SOP as deemed necessary and approved by the appropriate command level.
- b. Fulfills the role of expert in the overall maintenance program. Trains, teaches, coaches, and mentors leaders and personnel within the formation.
- c. Analyzes datasets within the maintenance program and adjusts training of personnel or processes based on adherence to standards.
- d. Provides recommendations to the commander for the structure of the maintenance platoon to ensure mission success by organizing the company, troop, and battery maintenance teams.
- e. Requests support from the Army field support battalion (AFSBn) or appropriate LRC when required.
- f. Ensures the MCO and platoon leaders are provided with a status of the program and current readiness posture. Ensures that the MCO can effectively understand and communicate to higher echelons the maintenance process and all data requirements of the program.
- g. Advises the battalion/brigade executive officer and commander on current combat power status and ways to build combat power and sustain readiness.
- h. Ensures personnel assigned GCSS–A roles are trained and proficient in the execution of associated tasks. Ensures that GCSS–A processes for capturing maintenance actions are accurately entered into the system, including the process of opening and closing WOs, ordering, receiving, and stocking of CLIX parts, scheduling equipment service plans, and opening and closing of equipment dispatches.
- i. Ensures that equipment has a maintenance plan that is developed, scheduled, executed within tolerance, recorded, and updated within GCSS–A.
- j. Trains and documents all personnel who perform technical inspections (TIs) and execute the quality assurance (QA) program. Monitors this program to ensure that inspectors assess and determine equipment readiness properly.
- k. Implements process and program steps to monitor maintenance, safety, modification work management, warranty, calibration, oil analysis, and technical or verification inspection programs within the organization. Ensures that personnel assigned these additional duties are trained and proficient in the performance of their duties.
- l. Assesses the ability of maintainers to perform repairs and coordinates training based on skill level and performance.
- m. Assists the MCO and commanders in the facilitation of command maintenance and PMCS periods. This includes adding special equipment needing PMCS and not on the regular schedule, such as radios and optics. Provides training for operators and crews in the execution of PMCS and the process flow of the DA Forms 5988–E (Equipment Maintenance and Inspection Worksheet (EGA)).
- n. Monitors all internal and external WOs to ensure that prescribed maintenance timelines are within tolerance and meeting the unit's mission. This includes parts being received, issued to unit-level maintainers, and installed within local SOP timelines.

- o. Develops the recovery program and ensures that all personnel know their roles and processes to execute operations.
- p. Coordinates with the S3 or S4 for inclusion of the recovery plan into the operations plans and orders.
- q. If assigned to an organization without internal capabilities to perform field level maintenance, coordinates maintenance requirements for a maintenance support company or external maintenance facility.
- r. Ensures that maintenance support NCOs are assigned to specific units that require maintenance support if performing in an SMC.
- s. Ensures that all material requisitions listed in ME5A/ZPARK are within budget, correct acquisition codes, recoverability codes, and proper GCSS–A Release Strategy Codes (business rule violations).
- t. Requests support from the Army field support battalion (AFSBn) or appropriate logistics assistance representative (LAR) when required.
- u. Ensure ERPS clerk responsibilities in GCSS–A are limited to dispatching, maintaining shop stock and bench stock, managing overage recoverable CLIX parts, and SSA operations in accordance with unit SOP and commander's guidance.
- v. Manage all CLIX operations from release strategy to ZPARK, through receipt and overage recoverable turn-in.
- w. Ensure all diagnostic equipment is serviceable and everyone knows how to use it properly.
- x. Ensure all maintenance standards are being met and equipment statuses are accurately reported.

4–28. Maintenance control supervisor

The MCS plays a critical role in the execution of parts reception, inventory, the ordering process, and issuing of parts to maintainers. The MCS monitors programs and processes for completion by maintenance sections and assigned organic field maintenance processes. The MCS controls the evacuated WO process. This includes evacuation, acceptance, execution, status changes, and closing of WOs. The MCS will assist the MCO and maintenance warrant officer in the performance of duties when necessary. The MCS—

- a. Ensures that all shop stock and bench stock inventories are completed and approved by the Company/Troop/Battery Commander and the MCO respectively.
- b. Train and supervise all ERPS clerks in all GCSS–A operations.
- c. Ensures all maintenance personnel that are E4 and higher have a valid GCSS–A account and are trained to perform their tasks in the system. Maintainers should be opening and closing WOs, updating DA Form 5988-Es from PMCS periods, creating maintenance plans, updating maintenance plans, and all other maintenance associated tasks in GCSS–A.
- d. Monitors the execution of maintenance programs and processes. Coordinates with the motor sergeants when maintenance tolerance is exceeding expected completion times.
- e. Ensures maintenance plans are executed on time and do not exceed the late date in GCSS–A. Ensures service packets are completed properly, filed, and updated within GCSS–A. This includes completing all open WOs with parts received associated with the equipment.
- f. Ensures parts reception, inventories, and issues are being conducted, documented, and recorded in GCSS–A.
- g. Ensures that equipment and tool inventories are being conducted and are accurate.
- h. Monitors and ensures the dispatch process is enforced.
- i. Ensures WOs are assigned to supported field maintenance sections, updated daily, and closed properly upon completion.
- j. Ensures WOs are being completed properly by the field maintenance team (FMT).
- k. Ensures MWO, SOUM, repairable, and recoverable item management, MMIS compliance, and TMDE tasks are being completed on time.
- l. Ensures motor pool safety is conducted, evaluated, and monitored. Inspects the motor pool and facilities where maintenance is performed.
- m. Supervises technical inspectors and NCOs performing QA checks.
- n. Monitors DA Form 5988–E flow to ensure PMCS is conducted, NMC vehicles are tracked and actioned, and faults are diagnosed and repaired.
- o. Ensures daily reports are accurate.
- p. Manages the battalion recovery section, if applicable.
- q. Manages all WOs evacuated outside the organization and internal to supported field maintenance shops. Ensures that customer accounts are established with supporting maintenance agencies and

recorded with DA Form 1687 (Notice of Delegation of Authority Receipt for Supplies) signed by the commander.

- r. Ensures there is a publications program, an NCO is assigned the additional duty, and required publications are on hand for all equipment in accordance with MTOE.
- s. Submits work requests when required for facility repairs.
- t. Ensures all maintainers and clerks within maintenance are licensed and proficient on all assigned equipment, to include vehicles, diagnostic equipment, and TELS.
- u. Ensures the Platoon's equipment is serviceable, and ready to conduct its mission.
- v. Ensures PMCS is conducted on maintenance section equipment.
- w. Acts as the senior maintenance trainer for all NCOs in the unit.

4-29. Maintenance support noncommissioned officers

Maintenance support NCOs are found on MTOEs of support maintenance companies. The maintenance control section manages maintenance support NCOs and serves as a primary link between the MCO, the maintenance section, and supported EAB units with no motor sergeants or dependent units. The maintenance support NCOs specific duties include the following:

- a. Inspecting and diagnosing faults for supported units with no capability.
- b. Scheduling equipment for repair, depending on workload, parts availability, the priority of the requesting unit, and the priority of the specific equipment to support current operations.
- c. Providing field level maintenance coordination and GCSS-A support, operated by a 92A, for units with no GCSS-A capabilities.
- d. Assisting EAB units with the CMDP inspections.

4-30. Equipment records parts specialist noncommissioned officer in charge

The Equipment Records and Parts Specialist Noncommissioned Officer in Charge (ERPS NCOIC) takes commands and workflow from the maintenance control section and manages the output of the battalion clerks. All FMTs have clerks assigned to their teams. The ERPS NCOIC ensures that all clerks within the battalion follow the SOP and are executing all GCSS-A tasks properly. The ERPS NCOIC manages the battalion's shop stock list (SSL) within the FSC storage locations and ensures parts are issued to all companies through WOs. Assigning the proper roles (for example, WOs) to the FMT motor sergeants allows the clerks to manage the parts process. The ERPS NCOIC—

- a. Monitors the inbound (VL061) report for parts at the SSA.
- b. Receives and processes parts from the SSA.
- c. Issues parts to WOs and teams.
- d. Stores SSL parts within assigned locations.
- e. Completes parts inventories.
- f. Turns in repairable and recoverable items to the SSA.
- g. Ensures dispatching process is being adhered to according to SOP.
- h. Files records necessary using Army Records Information Management System (ARIMS).
- i. Orders parts upon request from the motor sergeant.

4-31. Motor sergeant and section sergeant

The motor sergeant is directly responsible for the execution of the tasks associated with the maintenance program. Motor sergeants get their workload executed through the shop foreman and the squad leaders within their formation. They are directly responsible for all tasks that their subordinates complete. The motor sergeants receive priorities from the maintenance shop office and from their company commanders. The shop office is responsible for deconflicting battalion and company missions. Motor sergeants work administrative actions while shop foremen are on the floor ensuring proper execution.

- a. Formations have two types of motor sergeants: FMT/organic motor sergeants and the supported field maintenance motor sergeant.

(1) The FMT/organic motor sergeants manage all the maintenance processes and program tasks within their capability for their assigned companies. Work that cannot be done at the company level and requires execution by the battalion is managed by the supported motor sergeant. This position can be structured through an FSC as an FMT or individually assigned to a company on the MTOE.

(2) The supported motor sergeant manages the battalion-level commodity shops: ground support equipment, small arms, and automotive and tracked vehicles. The automotive section is generally used to maintain the organic programs and processes in these structures (see chaps 5 and 6).

b. The motor sergeant manages maintenance execution. The motor sergeant ensures—

- (1) NCOs are assigned proper GCSS-A roles to perform tasks within the system.
- (2) WOs for all jobs are being executed.
- (3) Scheduled maintenance tasks are being conducted on time.
- (4) Unscheduled maintenance tasks are scheduled and being completed.
- (5) SOUM, MWO, MMIS compliance, and TMDE are being executed within tolerance.
- (6) The Tool Program is being executed.
- (7) Shop safety is being adhered to at all times.
- (8) Parts are received and issued to jobs.
- (9) Repairable and recoverable items are turned in within standard times.
- (10) POL is inventoried and in stock.
- (11) Shop stock and bench stocks are stored and maintained in accordance with DA Pam 710-4.
- (12) All material requisitions in ME5A are within budget, correct acquisition codes, recoverability codes, and proper GCSS-A Release Strategy Codes (business rule violations).

c. The motor sergeant also—

- (1) Reviews reports for tolerance and workload.
- (2) Works with ERPS clerk for data cleansing within GCSS-A.

4-32. Maintenance shop foreman

a. The shop foreman takes guidance from the motor sergeant and issues the workload to the squad leaders. The shop foreman ensures that squad leaders have all the tools and equipment they need to complete their missions. The shop foreman ensures that all jobs are completed to standard, safety is being executed, and squad leaders are managing their workload properly and can fill in for the motor sergeants when necessary. The squad leader must be on the maintenance floor constantly and supervise the execution because the motor sergeant will typically be in meetings and working maintenance administrative actions. The shop foreman supervises the execution of maintenance tasks and issues workload to squad leaders for execution. The shop foreman ensures that the maintenance personnel assigned to a task are adequately trained or supervised to safely and correctly perform their MOS skill. These positions can be assigned to units with organic or supported field level maintenance. Supported field level maintenance positions are commodity-based shops with WO maintenance as the main priority. Organic positions are process and program-driven maintenance positions. The shop foreman also ensures—

b. WOs for all jobs are being utilized.

c. Scheduled maintenance is being executed on time and tasks are issued to squad leaders for execution.

d. Unscheduled maintenance tasks are issued to squad leaders.

e. SOUM, MWO, and TMDE are being executed by the proper personnel.

f. The Tool Program is being executed by assigned personnel.

g. Shop safety is adhered to at all times.

h. Parts are received and issued to jobs on WOs.

i. WOs are closed out upon completion.

j. Repairable and recoverable items are cleaned and turned in within standard times.

k. POL is on hand and being used and disposed of properly.

4-33. Maintenance platoon leadership

The maintenance platoon leader and platoon sergeant are responsible for personnel, equipment, and training of the platoon. The maintenance platoon leadership coordinates with the MCO and MCS to focus training on battle tasks, using mission requirements both present and projected. The maintenance platoon leadership—

a. Ensures company tasks are synchronized with the battalion maintenance mission.

b. Communicates with the MCO daily.

c. Is responsible for movement of the maintenance section to training events.

d. Is responsible for unit maintenance collection point security and logistical packages.

e. Develops platoon tactical plans in coordination with external maintenance mission requirements, including—

(1) Platoon defense (including sector sketches).
(2) Details to accomplish platoon and company missions, considering the maintenance workload and Soldiers most engaged in maintenance workload.

(3) Tactical road march and convoy plans for the platoon.

f. Oversees the PMCS program for assigned equipment.

g. Performs the duties of the MCO when no MCO is assigned.

h. Performs other duties as assigned by the commander.

4–34. Other leadership personnel

Other leadership personnel are the first line of support to field level maintainers. They assist the unit in maximizing equipment readiness by enforcing PMCS, scheduling operator-level maintenance training, and ensuring ownership of assigned equipment.

a. *Commanders.* Commanders ensure that the maintenance SOPs provide clear guidance to the maintenance platoon, sections, leadership, operators, and crews on their responsibilities. The size of maintenance operations may vary from command to command; however, roles of maintenance, unit leaders, unit equipment records clerks, and operators are universal. Commanders—

(1) Ensure command maintenance and PMCS are being conducted on all equipment.

(2) Ensure that the leadership is present during maintenance operations.

(3) Ensure maintenance is scheduled on the unit training calendar and executed.

(4) Plan for maintenance operations to occur during training events.

(5) Evaluate the readiness of equipment for anticipated missions or training events.

(6) Communicate priorities of the battalion and company to synchronize the maintenance tasks.

(7) Ensure that additional skill identifiers for appropriate MOSs are trained and certified.

(8) Ensure that all reception of materials from the SSA or external providers are managed, tracked, and inventoried by maintenance leadership.

(9) Ensure that the organization complies with dispatching standards and maintenance procedures as prescribed in AR 600–55, DA Pam 738–751, and local SOPs.

(10) Ensure all significant additional maintenance, duties, and processes have personnel assigned, trained, and documented on appointment orders.

b. *Executive Officers.*

(1) Ensure platoon leaders are trained in GCSS–A operations and maintenance management.

(2) Manage the materiel readiness of their unit as delegated by the commander.

c. *Operator and crew supervisors.* Unit supervisors provide leadership to the operator and crew and support the achievement of the Army maintenance standard by supervising and ensuring operators are present during maintenance operations. Crew supervisors will—

(1) Ensure unit personnel understand the local maintenance SOP.

(2) Ensure operators properly conduct PMCS on assigned equipment and record faults on DA Form 5988–E or DA Form 2404. Spot check subordinates to ensure they understand PMCS checks listed in the TM and complete it accurately.

(3) Ensure that DA Forms 5988–E are turned into maintenance managers in accordance with the local maintenance SOP.

(4) Conduct follow-ups with maintenance to get equipment faults repaired or actioned as necessary.

(5) Ensure that their subordinates fully participate in the performance of scheduled services by keeping the assigned operator and crew together with the equipment when possible.

(6) Attend, lead, and supervise the execution of weekly command maintenance.

(7) Ensure operators are licensed and trained on assigned equipment operations.

(8) Enforce the Army maintenance standard.

(9) Enforce safety standards for all equipment operations.

(10) Inform their chain of command when there is a lack of time, personnel, tools, TMs, or other means to accomplish PMCS, schedule, and unscheduled maintenance.

d. *Operators and crews.* Operators and crews must be trained on PMCS and equipment safety operations. Operators and crews are the first and most important personnel to identify equipment data necessary for Army maintenance management. Operators will—

(1) Read and understand the local field maintenance SOP and associated external SOPs.

- (2) Become licensed and technically competent on assigned equipment.
- (3) Complete PMCS according to appropriate TM, record faults on DA Form 5988–E or DA Form 2404, and submit to the motor sergeant or MCS in accordance with local SOP.
- (4) Are present for all maintenance operations that occurs on individually assigned equipment.
- (5) Submit and track equipment that is evacuated with DA Form 2407 (Maintenance Request) issued from local maintenance for submission to support maintenance when required.
- (6) Be present to assist maintenance personnel during the conduct of scheduled and unscheduled maintenance of assigned equipment.
- (7) Report faults that are not repaired properly to leadership.

Chapter 5

Sustainment Maintenance

5–1. Sustainment maintenance

a. Sustainment maintenance is the second level of the Army maintenance system. LRCs and Theater Logistics Providers (Materiel Support Center–Korea and Theater Logistics Support Center–Europe) are field maintenance activities but may perform limited sustainment maintenance work with authorizations from AMC through a special repair authority (SRA), one-time repair authority, or forward repair activity. Commanders will request SRA approval through AMC, in accordance with AR 750–1, using the DA Form 7567 (Special Repair Authority (SRA) Approval/Disapproval Sheet).

b. Sustainment maintenance is characterized by:

- (1) Commodity-oriented repair of components and end items in support of the Army.
- (2) Job shop/bay or production line operations with the capability to task/organize to meet special mission requirements.
- (3) Structured depot and theater support activities which support the mission requirements.
- (4) Installation, depot, and contractor activities.
- (5) Facilities, tools, machinery, TMDE, and technical skills and manpower needed to meet repair standards according to the depot maintenance work request (DMWR), national maintenance work request (NMWR), or applied technical data plans.

(6)

c. The term sustainment maintenance consists of materiel maintenance or repair requiring the overhaul, upgrading, or rebuilding of end items, parts, assemblies, or subassemblies and the testing and reclamation of equipment as necessary, regardless of the source of funds for the maintenance or repair or the location at which the maintenance or repair is performed. Sustainment maintenance is characterized by two standards:

(1) Overhaul is maintenance performed to restore equipment or components to a completely serviceable condition with a measurable (expected) life. This process involves inspection and diagnosis according to the DMWR or a similar technical direction that identifies all components exhibiting wear and directs the replacement or adjustment of those items to applicable equipment specifications.

(2) Rebuild is a maintenance process defined as an end item total teardown and replacement of all expendable components, all aged components, reconditioning of structural components, and the procedures identified for overhaul of the end item.

d. Operations assigned to sustainment level maintenance units/activities will normally include the following:

(1) Inspection, diagnosis, isolation, and repair of faults within modules or components in accordance with the MAC. Components repaired and returned to stock will be repaired according to the DMWR or similar technical directions that identifies all components exhibiting wear and directs the replacement or adjustment of those items to original equipment specifications.

(2) Performance of body, hull, turret, and frame repair in accordance with the MAC.

(3) Area maintenance support, including technical assistance and onsite maintenance as required or requested.

(4) Collection and Classification of Class VII materiel and Class VIII equipment end items for proper disposition.

(5) Operation of cannibalization points when authorized (see AR 710–2 and DA Pam 710–2–2).

(6) Assistance to field level maintenance organizations with turn-in of unserviceable end items and components through the appropriate SSA.

(7) Fabrication or manufacture of repair parts, assemblies, components, jigs, and fixtures when approved by the ACOM, ASCC, and DRU commanders.

(8) Equipment modifications as required by AR 750–10; these are integrated into the overall maintenance workload.

(9) A DMWR, NMWR, statement of work, or other applicable technical directive is required as guidance for the overhaul and rebuild processes.

(10) Manufacturing of end items and parts not provided by or stocked in the national supply system.

(11) Special inspections and modifications of equipment requiring extensive disassembly or elaborate test equipment. These are performed, when practical, as part of cyclic overhaul or special depot maintenance programs.

(12) Nondestructive testing to determine the acceptability of removed used parts.

(13) Installation of all outstanding MWOs and minor alterations directed by the materiel proponent. Report the application of MWOs in MMIS. This function can be delegated down to qualified personnel or agencies.

(14) Post-production Software Support for weapon systems will begin once the first software increment is fielded to the first unit.

(15) Depot repair and return programs (see AR 750–1 for details).

(16) Painting of repaired or manufactured repair parts, or painting that cannot otherwise be accomplished at the field level due to the lack of capability or OSHA approved facilities.

(17) Warranty support (sustainment level maintenance items).

(18) Special repair teams (sustainment level maintenance is not always executed at the depot). Each LCMC under AMC uses special repair teams to provide inspection and repair in accordance with applicable TMs for ground and air assets. The special repair teams are a combination of organic and contract personnel and support missions such as the Small Arms Readiness Evaluation Team.

e. Sustainment maintenance activities, to include Government contractors performing maintenance on Army equipment, will use approved TELS, GCSS–A, Maintenance Data Management System, Depot Maintenance Operations Planning System, and LMP, where applicable.

f. Sustainment level maintenance is characterized by component or end item repair that is returned to the supply system, or by exception, back to the owning unit. AMC provides oversight and execution of sustainment level maintenance. The sustainment maintenance function can be employed at any point in the integrated logistics chain. Sustainment maintenance supports both operational forces and the Army supply system. Sustainment maintenance is performed by industrial-type activities operated by the Army organic industrial base. Sustainment maintenance is further characterized by below depot sustainment and depot sustainment.

(1) *Below depot sustainment level maintenance.* This level of maintenance is maintenance accomplished on a component, accessory, assembly, subassembly, plug-in unit, or other portion generally after it is removed from the system. The remove and replace authority for this level of maintenance is indicated by the letter “H” appearing in the third position of the source maintenance recoverability (SMR) code. An “H” appearing in the fourth position of the SMR code indicates complete repair is possible at the below depot sustainment maintenance level. Items are returned to the supply system after maintenance is performed at this level. Below depot sustainment level maintenance can also apply to end item repair and return to the supply system.

(2) *Depot maintenance.* Depot maintenance is maintenance accomplished on end items or on a component, accessory, assembly, subassembly, or plug-in unit, either on the system or after it is removed. The remove and replace authority for this level of maintenance is indicated by the letter “D” or “K” appearing in the third position of the SMR code. Depot sustainment maintenance can be performed by either depot personnel or contractor personnel when authorized by AMC. A “D” or “K” appearing in the fourth position of the SMR code indicates complete repair is possible at the depot maintenance level. Items are returned to the supply system, or by exception, directly to a using unit after maintenance is performed at this level.

5–2. Repair parts support

a. Army sustainment maintenance activities performing depot level repairs are authorized to requisition and store spares, repair parts, and consumable items to support their maintenance programs and fabrication requirements. Details on funding for repair parts are contained in AMC Resource Management

Policy. These materials, when on hand at sustainment maintenance activities, are not available for redistribution until identified as excess to production requirements by the depot commander.

b. AMC will review sustainment maintenance forecasted requirements for the FY plus 3 out-years. Range and quantity of repair parts forecast will be determined through the enterprise resource planning (ERP) parts explosion process. Requisition/procurement actions will be initiated sufficiently in advance of the induction schedule, to take into account all administrative/production lead-time factors and order-ship time factors to ensure parts sufficiency for successful and on-schedule completion.

c. The ERPs repair parts forecasting process should capture a list of repair parts used for overhaul of repairable items, and the estimated parts usage factors for each repair part and then applies this information to the protection of the overhaul program repair parts requirements throughout a three-year planning horizon.

d. After ERPs parts explosion is run, automated special program requirements are generated to forecast repair parts requirements to the DLA and the Army life cycle management centers' demand planners.

e. AMC's demand planners for the repairable materiel will coordinate with other Army material managers, other Services, DLA, or General Services Administration's supply planners, as applicable, to ensure that repair part requirements are being sourced to support the projected/planned maintenance program. Coordination includes forecasting, pre-positioning, alteration, or changes necessary to ensure requirements determination is complete.

f. A temporary shortage of critical maintenance repair parts may be alleviated by local procurement, depot fabrication, controlled exchange, or reclamation, and is strongly encouraged to help ensure sufficient materiel is on time to support production schedules.

g. Repair parts consumed by industrial facilities are of two basic types: material charged to overhead and prorated across programs (such as bench stock) and material charged directly to programs. Material charged to overhead and prorated across programs (bench stock) includes low-cost, high usage, common-usage, and consumable items used by maintenance personnel at an unpredictable rate. This stock includes items such as common hardware, consumable tool parts (such as cutting blades and drill bits), electric/electronic piece parts, bulk materials (such as tubing, sheet metal, and wire), and repair kits composed of consumable materiel.

(1) Materials charged directly to programs include repair parts, spares, modification kits, and consumable items not qualified for bench stock. Also included are materials used for fabrication to support either a maintenance program or a funded fabrication program (such as sheets, roll and plate metals, wire, and brackets).

(2) Materials can be consumable or non-consumable.

(3) Materials are in controlled access facilities and replenished daily in work areas.

(4) Requisition actions will be directly driven by the depot production schedules.

(5) A single point of management and control will review stock levels quarterly. The review is to ensure sufficiency of material to support production within 360 days for AMC maintenance depots, the proper handling of excess/aged material, and the addition of new items to support evolving requirements. An aged material is defined as restricted and unrestricted material unused for more than 180 days. Long-lead items are an exception to this policy and are to be managed by the single point of management and control on a case-by-case basis taking into consideration dollar value and length of time that the materiel is restricted to work in process inventory. Aged-restricted materiel not needed to complete a production order will be moved to unrestricted stock. Aged-unrestricted materiel needs to be made available to the supply system for issue to other supported organizations.

(a) Materials charged directly to programs (stocks based on parts explosion for the rebuild, overhaul, and repair programs) in an ERP environment will be managed on a collective (unrestricted/not restricted to a specific program) requirement basis except when stock has been previously customer purchased/provided (for example, government furnished equipment). Stock will be maintained in unrestricted inventory status and will not be assigned to a specific program until consumption except when stock has been previously customer purchased/provided (for example, government furnished equipment). The ERP system's fully integrated capability to manage stock across all inventory accounts and to balance demand and supply actions will be used.

(b) Upon program closeout, the ERP system will issue exception messages where oversupply situations exist (inventory is more than dependent requirements driven from the bill of material (BOM)), BOM explosions on funded and unfunded programs, and over the authorized mission stockage level.

(c) The Industrial Facility's Industrial Business Office will review the messages and act to ensure current stock levels are reduced, through redistribution or disposal as appropriate, to reflect reduced future demand. Inventory reduction, redistribution, and disposal actions may include the following:

1. Cancellation of planned procurement actions and purchase orders where possible.
2. Possible return to supplier for credit.
3. Position excess materials in the plant account for global availability checking and consumption by parties other than the industrial base plant. Mark assets as "unrestricted stock."

5-3. Bill of material for materiel requirements planning

a. A BOM is the formally structured list of basic parts and materiel contained in equipment weapon systems, their components/assemblies, depending on the type of BOM. The primary function of a BOM, in the maintenance sustainment process, is to provide the official baseline to identify and determine material requirements and shortages (planned or actual) as a result of the materiel requirements planning (MRP).

b. The following BOMs and other planning factors are mandatory in accordance with AR 750-1:

(1) Manufacturing BOM is a listing of all the subassemblies, intermediates, parts, and raw materials that go into a parent assembly showing the quantity of each required to fabricate an assembly. It is used in conjunction with the master production schedule (MPS) to determine the items for which purchase requisitions and production orders must be released. A variety of display formats exist for the manufacturing BOM, including single-level BOM and multi-level BOM.

(2) Remanufacturing bill of material (RBOM) is a listing of all the subassemblies, intermediates, parts, and raw materials that go into a parent assembly, showing the quantity of each required to repair or overhaul an assembly using a depot overhaul factor. It is used in conjunction with the MPS to determine the items for which purchase requisitions and production orders must be released. A variety of display formats exist for the RBOM, including single-level BOM and multilevel BOM.

(3) Depot overhaul factor is the quantity of all subassemblies, intermediates, parts, and raw materials that go into a parent assembly RBOM expressed in terms of a percentage (for example, the RBOM parent assembly has 1 each of part A. Typically, part A only needs repair or replacement 50 percent of the time; therefore, the quantity in the RBOM parent assembly for part A is set at .5 each). AMC parts managers are responsible for updating the depot overhaul factors in the BOM upon completion of maintenance programs.

(4) An MPS is a manufacturing plan that quantifies significant processes, parts, and other resources to optimize production, to identify bottlenecks, and to anticipate needs and completed goods. Typical MPSs are created by software with significant user input. The MPS is a statement of what the company expects to produce, and purchase expressed in selected items, specific quantities, and dates. The MPS translates the business plan, including forecast demand, into a production plan using planned orders in a true multi-level optional component scheduling environment.

(5) Materiel master is an area in LMP that houses data relevant to RBOM and MRP logic, including lead times, make or buy logic, level of repair and maintenance codes, and supply sources. Materiel master records must be built and maintained for all equipment weapon systems, and their components/assemblies prior to the creation of a BOM or the execution of MRP. Ensuring correct codes are present in the materiel master allows MRP to function correctly and helps ensure that the correct level of inventory is available to support established maintenance programs.

5-4. Aviation sustainment maintenance

a. Aircraft will be selected as candidates for overhaul during peacetime under the aircraft condition evaluation program as described below:

(1) Aircraft with established overhaul programs will be evaluated annually by Aircraft Condition Evaluation Teams using criteria developed by the AMC and fielded by the LCMC.

(2) Aircraft condition evaluation data will be used by the LCMC to establish a profile index for each evaluated aircraft by serial number and to determine sustainment overhaul candidates.

(3) Aircraft with the highest profile index will be scheduled for the sustainment overhaul program first.

(4) Aircraft overhaul programs will be developed by U.S. Army Aviation and Missile Command (AMCOM) based on data, funding, and sustainment capability. The overhaul program will be finalized and coordinated with ACOMs, ASCCs, and DRUs. LCMC will notify ACOMs, ASCCs, and DRUs at least 60 days in advance of the scheduled overhaul date of specific aircraft to be turned in.

(5) Aircraft scheduled for sustainment overhaul that subsequently incur crash or battle damage will be reported to the LCMC for selection of replacement aircraft.

(6) As a related program to aircraft condition evaluation, the LCMC will develop data from the EMSR to assist in identifying possible sustainment maintenance candidates.

b. Aircraft in combat areas will be selected for sustainment maintenance in accordance with TM 1-1500-328-23.

c. An annual aircraft distribution conference will be coordinated by AMCOM. The distribution conference will be jointly chaired by the DCS, G-8 and DCS, G-3/5/7. Program executive officer (PEO) aviation in accordance with AMCOM, ACOMs, ASCCs, and DRUs will participate in the distribution conference. All conferences will be approved in accordance with current Army conference policy before committing or obligating any Army appropriated funds.

(1) AMC will coordinate with the ACOM, ASCC, and DRU concerned to determine quantities to be turned in for overhaul.

(2) The ACOM, ASCC, and DRU will identify aircraft overhaul candidates by aircraft serial number.

(3) Listing of aircraft selected for turn-in/replacement will be published by the LCMC.

Chapter 6

Maintenance of Watercraft

6-1. Watercraft on condition cyclic maintenance

On-condition cyclic maintenance (OCCM) is a sustainment level service. This service is required to meet numerous vessel-specific federal statutory and regulatory requirements. All Army watercraft will undergo OCCM in accordance with the intervals established in AR 750-1. The intervals in AR 750-1 are maximum time intervals for Active Component Class A and B vessels and APS Class A vessels only. When a deviation of more than 3 months is anticipated, the owning unit may request a waiver of no more than 6 months with justification through the appropriate ACOM, ASCC, and DRU to AMC according to AR 750-1. 180 days prior to the OCCM due date for all vessels. The owning unit must request a Marine Condition Survey to be conducted by U.S. Army Tank-Automotive and Armaments Command (TACOM) Watercraft Inspection Branch. APS Class B (MWT and CF) vessels will undergo a Marine Condition Survey at specified (OCCM) intervals to determine current OCCM requirements, if any. APS Class B vessels are dry-stored and maintained in accordance with TM 38-470 which significantly reduces and, in most cases, eliminates the OCCM requirements. If APS MWT and CF are determined to be seaworthy upon a qualified Marine Condition Survey, the OCCM may be waived, and the interval reset in accordance with the latest Marine Condition Survey completion date.

6-2. Phased Maintenance

Phased maintenance is a scheduled service that occurs 24 months after the OCCM is completed. Phased maintenance does not occur on vessels with a 36-month or 72-month OCCM cycle. This service is required to meet numerous vessel-specific, federal statutory, and regulatory requirements. During phased maintenance, all deferred field and sustainment level maintenance actions and applicable modernization upgrades to vessel systems and components approved by Product Manager Army Watercraft Systems (PdM AWS) will be executed. The objective of phased maintenance is to ensure readiness of the vessels and reduce the level of work and time required to complete OCCM by identifying and repairing faults early and reducing potential maintenance issues, thus increasing the readiness of the vessel throughout its life cycle. The duration of phased maintenance is dependent on a combination of marine condition survey findings (for sustainment actions), modernization upgrades (equipping actions), and field level requirements (unit actions). Phased maintenance should not exceed 90 days.

6-3. Watercraft maintenance reporting

Army watercraft will be maintained and reported using the TELS and processes and records prescribed in AR 56-9 and AR 750-1.

6-4. Report of dry docking

Prepare a dry-docking report after each scheduled or unscheduled dry docking of all Army watercraft.

- a. Use DA Form 5587 (Report of Drydocking, Painting and Condition of Vessel Bottom) to record cyclic sustainment maintenance and the condition of a watercraft's bottom, zinc protectors, rudders, propellers, struts, shafting and shaft bearings, sea valves, and paint system.
- b. DA Form 5587 contains instructions. The attending watercraft marine surveyor (or one designated by the chief of the watercraft-inspection branch or the assistant product director sustainment) will complete the form in conjunction with performing dry-docking and repair procedures.
- c. Distribute and maintain the approved DA Form 5587 as follows:
 - (1) One copy remains on board the watercraft for class A1, A2, and C vessels designated barge, derrick.
 - (2) One copy is maintained at the owning unit for all vessels.
 - (3) The original copy is retained in the watercraft's file at watercraft inspection branch for all vessels.
 - (4) Forward one copy to Product Director, Army Watercraft Systems at usarmy.detroit.tacom.mbx.ilsc-wib@army.mil. This copy is due within 30 days of refloating the watercraft after a dry-dock procedure.

Chapter 7

Maintenance of Electronics, Digital Systems, Communications Security, Network and Test Measurement and Diagnostic Measurement Systems

7-1. Modification of communications security materiel

Modification of Army-owned COMSEC materiel is prohibited unless authorized in writing by U.S. Army Communications Security Logistics Activity and will be reported in accordance with AR 750-10. Unauthorized modification of COMSEC equipment is a reportable COMSEC incident.

7-2. Test, measurement, and diagnostic equipment

TMDE is any system or device to evaluate the operational condition of equipment or subsystems or to determine if a part or item is installed within specifications.

a. AR 750-43 and DA Pam 750-43 explain the Army TMDE Calibration and Repair Support Program.

b. TB 43-180 is the authority to validate calibration items. Units will receive their monthly calibration listing from the TMDE support unit. Units can also access the TMDE dashboard on the Maintenance Readiness Metrics on the AESIP webpage to manage their TMDE program.
<https://www.aesip.army.mil/irj/portal>.

c. Medical device maintenance activities will manage TMDE programs according to AR 750-1 and TB MED 750-2. Two TMDE classifications are used by medical maintenance activities in support of the medical maintenance mission, and these include:

(1) Test, Measurement, and Diagnostic Equipment-General Purpose (TMDE-GP)—This classification applies to TMDE used for the diagnosis and repair of medical device. TMDE-GP is authorized at many activities and is fully supported by the U.S. Army Test, Measurement, and Diagnostic Equipment Activity.

(2) Test, Measurement, and Diagnostic Equipment-Special Purpose (TMDE-SP)—This classification of TMDE has a specialized application and is used in the verification and calibration of medical devices. Original equipment manufacturer (OEM) or depot level support may be required to service TMDE-SP.

Chapter 8

Life Cycle Maintenance Support Procedures

8-1. General

In accordance with AR 750-1, total cost of ownership reduction is an Army objective throughout the life cycle of the weapon system. The Chief of Staff, Army, and the Army Acquisition Executive identified the reduction of operating and support costs as a high priority and vital to realizing modernization efforts. The system's total ownership cost includes costs associated with acquiring, operating, modifying, maintaining, supplying, and disposing of weapon/materiel systems. Reducing total ownership cost is instrumental, not only to reducing fiscal demands on the operational commander, but also to generating savings that can be reinvested in support of Army modernization objectives.

8-2. Reliability-centered maintenance

a. Reliability-centered maintenance (RCM) enables the optimal mix of condition-based actions, failure finding, or run-to-failure approach (see ADS-79-HDBK for aircraft/aviation systems). RCM involves identifying actions that, when taken, will reduce the probability of failure and which are the most cost effective. For more on RCM, see AR 700-127 and MIL-STD-3034.

b. Capability developers (CAPDEVs) and materiel developers (MATDEVs) will use RCM to determine the most effective approach to maintenance.

8-3. Maintenance support initiation

During the acquisition phase of the weapon system life cycle, the MATDEV will (see AR 700-127)—

- a. Provide materiel maintenance inputs.
- b. Analyze maintenance and maintainability goals and objectives and provide input to the combat developer, including the surface maintenance support proponent, for finalizing the maintenance and logistics support concept portions of requirement documents in accordance with AR 700-127.

8-4. Establishing and sustaining maintenance support requirements

In accordance with AR 750-1, field and sustainment maintenance activities will be established and will perform the functions and tasks necessary to develop and sustain adequate maintenance support for new materiel or fielded material across the entire life cycle. Maintenance activities will—

- a. Participate in all phases of the materiel systems development, production, and sustainment.
- b. Provide maintenance requirements/constraints to the system acquisition plan and contract acquisition package.
- c. Develop the maintenance aspects of the logistics support system, including battle damage repair (BDR).
- d. Participate in the Test and Evaluation Integrated Product Team and provide requirements to test planners for use in developmental testing, operational testing, and evaluating the system support package.
- e. Prepare and execute the maintenance portion of the supportability strategy (SS) and other plans, as appropriate, during the materiel acquisition process.
- f. Conduct and sponsor research programs to improve the performance of both maintenance engineering and maintenance operations.
- g. Provide technical expertise to resolve problems or respond to requests for information from user ACOMs, ASCCs, and DRUs concerning support of materiel systems.
- h. Evaluate and identify calibration requirements of TMDE, ensure availability of calibration support, and ensure that TMDE acquisition is consistent with AR 750-43.
- i. Generate maintenance workforce performance data on fielded systems from all levels of maintenance, including sustainment level, for use in establishing life cycle estimates to support development of new weapons/equipment, application of MWO to fielded equipment, and updating float and failure factors. Identify areas requiring maintenance-engineering actions and provide appropriate input to the system manager.
- j. Ensure that RCM criteria are used to develop maintenance standards.
- k. Ensure that the MAC is developed and uses RCM and is in accordance with Society of Automotive Engineers (SAE) publications: SAE JA1011, SAE GEIA STD-0007, SAE TA STD-0017, and SAE JA1012 (see AR 700-127).
- l. Identify and budget for Depot Maintenance Program Element and Forward Repair Activity.
- m. Establish and conduct pilot industrial base maintenance programs.
- n. Develop and update technical criteria to prescribe the scope, depth, and frequency of inspection and maintenance operations to be performed on materiel systems. Establish technical criteria for the performance of maintenance operations based on quantitative control parameters, operating time, miles traveled, rounds fired, usage rate, local environmental conditions, equipment conditions, or a combination of any of the preceding. The technical criteria will—
 - (1) Be published in technical publications to include MAC, SMR, and MOS.
 - (2) Be evaluated periodically and changed to include Log Demonstration in accordance with AR 700-127, in-process reviews in accordance with AR 25-30 as required.
 - (3) Be used to determine economic repair or replacement of equipment.
 - (4) Prescribe guidelines for inspection, reclamation, condemnation, and demilitarization of equipment.

- (5) Identify items requiring float support and compute initial float factor.
- (6) Identify items requiring an MEL and demilitarization instructions.

8-5. Maintenance support plan

a. Maintenance is an integral element of the SS; for more information see AR 70-1, AR 700-127, and AR 700-139. The Maintenance Support Plan is a portion of the SS. The SS is prepared before Milestone B in the Materiel Acquisition Process in accordance with DA Pam 700-127. It is updated and expanded periodically throughout the life cycle of a system.

b. The Maintenance Support Plan is based on the maintenance/logistics concept contained in the requirement document. In developing alternatives and selecting a final maintenance concept, the MATDEV, in coordination with the combat developer and surface maintenance support proponent will evaluate factors such as the following:

- (1) Compatibility with the Army maintenance system at present and planned.
- (2) Complexity of the materiel system.
- (3) Mobility and transportability requirements.
- (4) Operational readiness objectives.
- (5) Operational and logistics environment in which the system will operate.
- (6) Criticality of the materiel system.
- (7) Support concept for subsystems.
- (8) Projected operating and support cost.
- (9) Resource requirements.
- (10) Requirement for maintenance float, warranty, total package fielding, weapon system designator code, MEL, technical maintenance manuals, embedded TM, IETM, and demilitarization instructions.

8-6. Depot maintenance support plan

a. The Depot Maintenance Support Plan (DMSP) is an integral part of the SS. The DMSP ensures provisions for required depot maintenance. This plan identifies all installations and forward repair activities to be used for depot maintenance support of the item and the type of workload to be assigned to each based on SOR decision logic.

b. The objectives of the plan are to identify and schedule the preparation of overhaul standards and procedures and the acquisition of peculiar depot maintenance equipment, facilities, TMDE, and personnel training.

c. The DMSP encompasses all phases of the life cycle of an item of new materiel. Planning actions and a sample plan are contained in DA Pam 700-127. The DMSP is updated as changes become necessary.

d. Consideration will be given to the use of inter-Service support to provide maintenance support services (see AR 750-1).

e. Full sustainment maintenance support will begin with the initial operating capability for all items identified as depot level repairs. If organic support will not be available by initial operating capability, then interim contractor support is allowed up to three years (see AR 700-127).

8-7. Product support analysis

a. The Product Support Analysis (PSA) is a systematic process, as described in standard SAE TA-STD-0017 and MIL-HDBK-502A, that examines all aspects of a proposed system to ensure it can be supported at an affordable cost, with Reliability-Centered Maintenance (RCM) being a key component of this process. As part of this effort, RCM will be applied to all acquisition programs, generating Logistics Product Data (LPD) that is documented in accordance with standard SAE GEIA-STD-0007.

b. The RCM will be used to establish a systematic approach for identifying and developing scheduled or preventive maintenance tasks. The program will be monitored to ensure continued updates of scheduled/preventive maintenance requirements based on design changes, tools or maintenance concepts, or structure of maintenance units.

c. The PSA process involves analyzing maintenance support costs related to weapon system or equipment end-item performance data to develop comprehensive LPD that will identify skills, and any supplementary training required. PowerLOGJ2, a Government provided acquisition logistics data management software tool, provides a standardized framework to develop, evaluate, review, and integrate LPD and generate logistics support summaries as defined in the standard SAE GEIA-STD-0007.

- d. Maintenance support activities personnel will ensure a balanced logistics support program is planned and executed at the least cost to the Government.
- e. AR 700–127 provides policy guidance on the use of this analysis technique during materiel acquisition. Maintenance activities will develop PSA requirements considering the Integrated Product Support elements. MATDEVs will coordinate logistics information they develop with maintenance activities.
- f. The project manager (PM) will use the LPD Store to collect and save LPD throughout the product life cycle.

8–8. Maintenance equipment publications

- a. The Army Publishing Directorate (APD) is the source for Army administrative publications (<https://armypubs.army.mil>). Units and activities can use, review, print, and download the electronic versions of publications and forms. AR 25–30 is the governing policy on maintaining DA administrative publications. DA Pam 25–40 provides instructions and guidance to comply with AR 25–30.
- b. TMs should be available in multiple formats and from numerous sources.
- c. Electronic technical manuals (ETMs) and interactive electronic technical manuals (IETMs) are used at field and sustainment levels of maintenance to support operator/crew, and user requirements.
- d. Manufacturers (user) manuals. Commanders and supervisors will use manufacturers' manuals for commercial materiel (for example, N–SE, commercial off-the-shelf (COTS) equipment manuals used in lieu of TM–10 and TM–20 series) procured or leased for use at all levels of maintenance.
- e. Equipment operation and PMCS execution. Operators must have current TMs for all assigned equipment in the unit. Field level maintainers and supervisors must have current field level maintenance TMs, LOs, TCs, and TBs to properly maintain and service assigned equipment. Maintenance managers need ARs, DA Pams, field manuals, Army techniques publications (ATP), Army doctrine publications, and supply catalogs to ensure their unit is operating in accordance with Army doctrine and Federal law.
- f. Equipment ETM and TM updates delineate and describe guidance for the operation, evaluation, maintenance, and repair parts support of the materiel system, including modifications and BDR.
- g. Equipment technical publications delineate and describe:
 - (1) Maintenance tasks (scheduled and unscheduled).
 - (2) Materials, task time standards, and workmanship required.
 - (3) Methods and practices to complete maintenance tasks.
 - (4) Safety and other precautions.
 - (5) Wear limits, fits, tolerances, and other inspection criteria.
 - (6) Calibration requirements for special and general-purpose TMDE.
 - (7) Desirable post repair operational performance standards.
 - (8) Nuclear hardness maintenance and hardness surveillance requirements.
 - (9) Preservation of chemical, biological, and radiological warfare resistance.
 - (10) Storage requirements.
 - (11) Fault isolation.
 - (12) Data required to support equipment tracking and fleet performance information, including information required to be on equipment data plates.
 - (13) Corrosion prevention and guidance for specific vehicle and components.
- h. Procedures in detail to clarify the technical competence required to complete each level of maintenance. Develop requirements to complete repairs at the national maintenance standard for field repairs according to commercial best practices and published as a NMWR or TM. Ensure coordination with the QA and safety activities.
- i. Requirements for depot maintenance in accordance with industry best practices, coordinate with the QA and safety activities, and publish as a depot maintenance work requirement.
- j. Maintenance requirements and tasks in accordance with RCM principles to ensure preservation of design reliability and safety. The RCM program concern is identifying design practices that minimize preventive maintenance workload. RCM analysis is used to develop initial scheduled maintenance requirements and is based on engineering information. PMCS tables provide operator/crew and field maintenance personnel with technical guidance for determining and preserving full mission capability of their equipment. The PMCS Tables are to be prepared in accordance with RCM principles.

Note. Emerging requirements such as PMCS procedure changes and software updates are accessible in the MMIS database until the specific TMs is updated. Maintainers should use the TM as the baseline, but periodically check MMIS for any updated procedures or new information.

k. Current maintenance quality requirements and safety checks with the OEM manual.

l. Scheduled/preventive maintenance of any kind considering reliability, availability, and maintainability-related support concept. Scheduled maintenance programs for weapon and equipment end items will be developed, applied, and managed by all MATDEVs using RCM.

m. Age exploration is part of the RCM program where updates can be made to the initial scheduled maintenance requirements. Age exploration occurs after fielding.

(1) The materiel proponent initiates and maintains an age exploration program as part of RCM. The RCM analysis furnishes initial scheduled maintenance requirements based on engineering information. Unique Item Tracking (UIT) data and usage information provide initial feeder input for age exploration.

(2) Establish an age exploration program to address the following steps:

(a) Selection of candidates for age exploration.

(b) Design of the age exploration task.

(c) Collection of required data.

(d) Conduct data analysis.

(e) Apply analysis results to maintenance tasks.

(f) Determine the number of economic repairs, overhauls, or economic service life of equipment.

(g) Adjust MELs in TBs.

(h) Identify the impact on the equipment's maintenance burden data.

n. Details to enable Soldier operations and maintenance capabilities. These publications need to be tested and validated during developmental testing and operational testing. Publication adequacy will be addressed in test reports.

o. LPD will be used as source data for developing and updating equipment publications. The source data can also be used in preparing and updating work measurement standards, manpower support requirements, QA criteria, methods and standards, and DMWR or NMWR.

p. Equipment publications will be developed during the acquisition process and updated by the LCMC product support team throughout an item's life cycle. The program manager in coordination with the Product Support Team will prepare MWOs to authorize the application of mandatory modifications to equipment. Prepare sustainment maintenance work requirements for materiel for depot maintenance functions listed in the MAC. The MATDEV verifies equipment publications in coordination with the appropriate T2COM proponent school to ensure contractor compliance with contract requirements. User concerns regarding incomplete or faulty publications will be resolved prior to authentication and subsequent printing and distribution of TMs.

q. The repair parts and special tools list and description to support and be consistent with the MAC. The list will display materiel that can be stocked as authorized stockage list/prescribed load list materiel by national item identification number.

r. Manufacturer manuals for commercial materiel procured or leased-off-the-shelf for use at all levels of maintenance. To the greatest extent feasible, manufacturer manuals will be compatible with emerging electronic publishing systems. PMCS, MACs, repair parts and special tools lists—including NSNs—work measurement standards, and similar specialized data will supplement them, as necessary. The MATDEV or other proponent, in coordination with CAPDEV, to include the LCMC, determines when COTS and NS-E manuals are acceptable for maintenance purposes. Procurement of COTS manuals and supplemental manuals is prescribed in AR 25–30.

s. Initial development and update, equipment publications coordinated with the appropriate materiel safety director to assure that proper warnings, cautions, and limitations are included.

t. Appropriate environmental office to ensure the correct references are included.

u. Incorporation of materiel procured and managed by DLA or General Services Administration into applicable TBs which are based upon their assigned Federal Supply Code and managed by the appropriate item manager.

v. Problems involving equipment publications for new and modified materiel that cannot be resolved prior to finalization will be solved through a maintenance literature conference. This is done before the development acceptance in-process review or Army Systems Acquisition Review Council and Defense

Systems Acquisition Review Council by the agency or command responsible for logistics support of the materiel system.

w. TMs provided in electronic format (ETMs or IETMs) increase efficiency, reduce operations and sustainment cost, incorporate the ability to receive and give back information to the digital logbook and assists in automated maintenance form creation and parts requests, and reduce paper requirements. In accordance with AR 25–30, program managers will use interactive authoring display software on all new start programs to simplify and expedite maintenance of IETMs. The interactive authoring display software viewer will be used to support the high functionality requirements of complex systems such as aircraft, ground combat systems, and all other Army systems/equipment utilizing ETMs/IETMs when economically feasible.

(1) ETMs and IETMs are intended for all units, maintenance activities, and depots.

(2) The Army will provide maintenance support devices (MSD) for using ETMs and IETMs. MATDEVs will use the requirement determination process to document this requirement, and the DCS, G–3/5/7 in conjunction with the DCS, G–8 will assign and properly resource a MATDEV to acquire this equipment. MATDEVs will coordinate with the PD–TMDE prior to developing the IETM that will be hosted by the MSD or AT-Platform Device. These devices will have several capabilities, to include the ability to—

(a) Run/play an ETM or IETM.

(b) Interface with a weapon system platform or equipment item.

(c) Run a portion of GCSS–A at the mechanic or technician-level.

(3) Commanders may elect to maintain limited paper copies for contingency plan purposes.

(4) Paper copies will be stocked and distributed only by the Army Publishing Directorate (APD).

x. Depot maintenance work requirements will be available for the performance of depot maintenance tasks identified in the MAC.

(1) Process for overhaul and rebuild, regardless of the commodity of the equipment, as defined in depot level maintenance. Maximum use will be made of existing data and procedures. Instead of depot maintenance work requirements, consider using verified manufacturers' equipment publications for procured or leased commercial materiel. Depot maintenance work requirements, when required, must contain data required by DA Pam 25–40.

(2) Depot maintenance work requirements verified by the system proponent as indicated in section II of the SS (see DA Pam 700–127).

(3) Sustainment maintenance work requirements by the system proponent to agree with the latest technical data package.

(4) Materiel proponents (for example, AMC), in coordination with APD, will publish and maintain a current index of all depot maintenance work requirements.

(5) NMWR available for the performance of sustainment maintenance as directed by AMC. All Class VIII/ IX repairs directed by AMC, regardless of commodity, will be defined as sustainment maintenance.

(6) Development of NMWRs maximizes the use of existing data and procedures. Consideration will be given for using verified manufacturers' equipment publications for procured or leased commercial equipment.

(7) NMWRs must contain data required by DA Pam 25–40.

(8) NMWRs will be verified by the system-applicable AMC LCMC.

(9) NMWRs will be maintained by the applicable AMC LCMC to agree with the latest technical data package.

(10) Mandatory parts replacement lists published in the NMWRs will have the source of supply validated prior to publication.

y. MATDEVs are responsible for funding the verification effort for all equipment publications, including funding for user representative involvement.

8–9. Multimedia use in interactive electronic technical manuals

a. The proponent for each weapon system or subsystem along with subject matter experts from T2COM will establish the specific instances where enhanced functionality will be incorporated into the associated IETM. Multimedia capabilities can consist of, but are not restricted to, the following:

(1) IETM multimedia.

(2) Animation.

(3) Three-dimensional media.

(4) Motion video.

b. Use of multimedia should be considered for use in complex tasks to enhance the maintainer's understanding of the task. Complex tasks may include procedures that require the use of special tools, sets, kits, or outfits, or tasks continuously performed incorrectly or not in a timely fashion (as identified during training and testing). Others include the following:

- (1) Infrequently performed actions.
- (2) Hydraulic flow.
- (3) Troubleshooting or fault isolation.
- (4) Difficult to access tasks.
- (5) Software navigation.

c. A waiver from AMC is required to use proprietary/licensed runtime display software. Submit waiver requests to AMC (AMCC-BIP), usarmy.redstone.usamc.mbx.hqamc-cc-command-counsel-admin@army.mil.

8-10. Maintenance/service kits

Maintenance/service kits are used to optimize the delivery of maintenance. MATDEVs and AMC ensure the aggregations of repair parts, special tools, maintenance related supplies, and other items are compiled into an array of kits to support each Army equipment platform. The following procedures apply to maintenance/service kits:

- a. Maintenance/service kits are designed to increase Soldier/maintainer efficiency, reduce TAT, ease handling of items, and assist the warfighter in achieving readiness objectives in AR 700-138.
- b. MATDEVs and AMC will conduct annual reviews of readiness data available in TELS and adjust maintenance/service kit support as required to support deployed forces.
- c. Capability and training developers will integrate the use of maintenance/service kits into doctrine and training programs.
- d. Stockage of maintenance/service kits by field organizations will meet the demand criteria prescribed in AR 710-2.

8-11. Initial provisioning

Initial provisioning is a management process for determining and acquiring the range and quantity of support items necessary to operate and maintain a new end item of materiel for an initial period of service. Detailed information is contained in AR 700-18, AR 700-82, and SAE Government Electronics and Information Technology Association Standard-SAE-GEIA-STD-0007.

- a. The selection and assignment of spares and repair parts to the levels of maintenance will be accomplished in accordance with guidance in AR 700-18 and AR 700-82 using data developed through the PSA process as prescribed in SAE TA-STD-0017.
- b. Selection and coding assignment must be according to the maintenance concept, the maintenance plan, and the MAC.
- c. Source, maintenance and recoverability codes, essentiality codes, and demilitarization codes will be assigned to each spare and repair part, TMDE, and other support items.
- d. Maintenance replacement rates and task times will be assigned for peace, wartime, and military operations other than war usage and geographical considerations for all spares and repair parts. Technical guidance for developing is available in the maintenance replacement rates in SAE Government Electronics & Information Technology Association SAE GEIA-STD-0007.
- e. Maintenance task distribution will be developed by using the MAC, maintenance-level workload capability, and latest repair TATs (see AR 700-18).

8-12. Materiel release and fielding

Materiel fielding is the process of planning, coordinating, and executing the deployment of a materiel system and its support. For policy on Materiel Fielding see AR 770-2, for policy on Type Classification and Materiel Release see AR 770-3. DA Pam 770-2 and DA Pam 770-3 contain instructions, formats, reporting requirements, and schedules used to carry out the policies. The objective of the materiel release for issue process is to establish a management control system to ensure that materiel released for issue by the Army is safe, operates as designed, and is logistically supportable during fielding.

Chapter 9

Maintenance Programs

9–1. Maintenance Award Program

a. Individual and Soldier recognition. In accordance with AR 600–8–22, commanders in the rank of lieutenant colonel (LTC)/O–5 or higher can award Driver and Technician badges. Commanders in the rank of colonel (COL)/O–6 or higher may approve the Technician-M badge.

b. Unit recognition. The Chief of Staff, Army Award for Maintenance Excellence (AAME) program serves as a cornerstone for ACOM, ASCC, or DRU unit maintenance recognition programs. AAME participation enhances readiness, develops esprit de corps, and promotes the fundamentals of maintenance management. The yearly guidance and full instructions for nomination packets are located on the U.S. Army Ordnance School (USAOS) website, which is available at <https://goordnance.army.mil/aame/index.html>.

c. HQDA evaluation requirements.

(1) Phase I: Packet evaluation board.

(a) USAOS will convene an evaluation board and appoint an appropriate chairperson.

(b) The board members will be drawn from the ACOMs, ASCCs, and DRUs. Members will have both a proven performance record and expertise in maintenance. Personnel will be in the grades of sergeant first class and above, chief warrant officer two and above through chief warrant officer five, and captain and above or civilian equivalent.

(c) Phase I evaluation guidelines and scoring criteria will be developed by USAOS. The board will assess the AAME nomination packages and select semifinalists in each of the competition categories.

(2) Phase II: Onsite evaluation of phase I semifinalists.

(a) USAOS will appoint an onsite evaluation team to evaluate all Regular Army, USAR table of organization and equipment (TOE)/MTOE, TDA, ARNG TOE/MTOE, and TDA semifinalists.

(b) The team members will be selected from ACOMs, ASCCs, and DRUs. If possible, members will be selected from the phase I evaluation board or have previous experience in conducting AAME onsite evaluations.

(c) Using the phase II evaluation guidelines/scoring criteria, the onsite team will evaluate each semifinalist unit.

(3) Winner notification. The DCS, G–4 (Maintenance Directorate) will notify the winners by message after phase II results are compiled.

(4) Lessons learned. The USAOS will compile and forward lessons learned from the nominations not selected as semifinalists to the DCS, G–4 and each ACOM, ASCC, and DRU. Additionally, the USAOS in conjunction with DCS, G–4 will host an annual ACOM, ASCC, and DRU-level AAR. Lessons learned will be discussed at the annual maintenance award program AAR.

(5) Leader Engagement.

(a) Leaders and supervisors encourage performance and compliance through active engagement and recognition. Leaders highlighting exceptional performance and being present in the process reinforce standards. Public Affairs may emphasize excellence through communication products and visual information documentation. Public affairs officers (PAOs) are the Army's release authority for official Army information, including awards for performance. Providing the PA staff information about AAME winners and milestone achievements within the system equips PA to communicate about Army stewardship and performance but does not obligate the PAO to disseminate the information.

(b) Commanders and leaders will submit awardee information and associated visual information as official records to the Commander, USAOS at usarmy.gregg-adams.tradoc.mbx.maintenance-excellence-award@army.mil.

(c) Army webmasters for public facing websites at ACOMs, ASCCs, and DRUs may post official, Army visual information products online for awardees and public stakeholders to view and download. Publicly released information requires a review and release by PAO prior to posting to public websites or the Defense Visual Information Distribution System.

d. Program milestones. The USAOS will—

(1) Request HQDA board members and onsite evaluation team members to meet during the first quarter of the FY.

(2) Convene the HQDA Phase I Evaluation Board during the first quarter of the FY.

(3) Convene the HQDA onsite Phase II Evaluation Team visit during the second and third quarter of the FY, following the conclusion of the Phase I Evaluation Board.

(4) Publish the Preventive Maintenance Monthly and public affairs articles, as required.

(5) Conduct ACOM-, ASCC-, and DRU-level AARs during the third quarter.

(6) Convene the HQDA annual award ceremony during the third and fourth quarter.

e. Depot level maintenance operations competition.

(1) AMC will conduct a sustainment level competition selection board, review all depot facility nomination submissions, and select a depot level competition winner and runner-up.

(2) DCS, G-4 will review the competition winner and runner-up to ensure that the submissions meet the minimum competition criteria for programs within the Department of Defense's (DoD's) major organic depot facilities. That is, those facilities having more than 400 employees engaged in depot level maintenance operations that have been in operation for at least 6 months of the competition period.

(3) Instructions for preparing and submitting the depot level nomination package are listed on the official USAOS website (<https://goordnance.army.mil/aame/index.html>).

9-2. Army Oil Analysis Program

a. Overview. The objectives of the Army Oil Analysis Program (AOAP) are to improve operational readiness of Army equipment, enhance safety, detect impending component failures, and conserve petroleum resources through application of the on-condition oil change policy, dependent on availability of resources. AOAP monitors lubricants for the presence of contaminants, abrasive part wear, and review of prescribed physical properties and consolidates analytical data in support of diagnostic/prognostic maintenance processes. For AOAP policies see AR 750-1.

b. Aviation Ground Support Equipment (AGSE) hydraulic samples are required every 30 days and will be mailed or delivered to available laboratories.

c. Special samples may be submitted from any weapon system when unit maintainers suspect contamination or an impending failure in engines, transmissions, or hydraulic systems. Special samples may also include grease samples, filters, mishap investigations, and debris collected on magnetic chip detectors.

d. Point of contact for AOAP is usarmy.redstone.asc.mbx.aoap@army.mil or (256) 955-0236.

9-3. Army Warranty Program

For detailed policy on the Army Warranty Program, (see AR 700-139).

9-4. Army Modification Program

a. MMIS is the current application within LDAC where LCMCs provide ACOMs with the capability to report completion and access to MWO message instructions. MMIS can be accessed through the Army Enterprise Portal, <https://www.aesip.army.mil/irj/portal>.

b. For detailed policy and procedures on the Army modification program, see AR 750-10, AR 220-1, AR 700-138, and DA Pam 738-751.

c. Mandatory modifications are authorized for application by a published MWO. The MWO applying activity is responsible for ensuring the application of MWOs and equipment data in MMIS is accurate.

d. Equipment awaiting application of an emergency MWO will be placed in an NMC status in accordance with AR 750-10. Urgent modifications will be applied within two years from the MWO effective date as specified in the MWO. The equipment may continue to be operated under restrictions determined by the MATDEV. Equipment not modified 2 years from the effective date of the MWO will be reported as NMC, except in the case where an extension has been granted by the DCS, G-4 (Maintenance Directorate) in accordance with AR 750-10, DA Pam 738-751, AR 220-1, and AR 700-138.

e. Routine modifications will be applied within five years from the MWO effective date as specified in the MWO. Routine MWOs published but not applied, will not cause equipment to be reported NMC. Action to apply overdue MWOs will continue and require command emphasis.

f. The funding of MWOs is based upon guidance in DoD 7000.14-R, DFAS-IN Manual 37-100 current FY and AR 750-10.

g. Commanders will not modify their equipment unless there is an official MWO.

h. The activity applying an MWO will report MWO application to MMIS in accordance with AR 750-10.

i. MWOs will be annotated in the applicable maintenance TELS with an appropriate fault code based on the classification of the MWO.

j. New MWOs with data plates and labels must include requirements for item unique identifier.

k. MATDEVs will ensure that the new data plate or label retains the original unique item identifier (UII) in accordance with AR 700–145.

9–5. Army equipment safety and maintenance notification system

a. Maintenance messages.

(1) The AESMNS includes maintenance messages such as MAMs, maintenance information messages, SOUMs, and the ground safety action.

(2) The repository and confirmation/compliance reporting location for AESMNS is the MMIS application which can be accessed through the AESIP portal, <https://www.aesip.army.mil/irj/portal>.

(3) MMIS and establish reporting compliance reports Aviation, Missile, Watercraft, Medical, Electronic, NBC/Radiation and Ground Equipment within accountable property system of record (APSR). Medical Material, Modification, and Safety Messages are syndicated and reported against the equipment records within GCSS–A. Non-serialized messages are not captured.

b. When a materiel defect or hazardous condition that can cause death or injury to Army personnel or damage to Army equipment is discovered, an AESMNS message is prepared in accordance with AR 750–6 and a SOUM or ground safety action is approved for release to the field.

c. A SOUM is issued when the risk condition assessment is a high or medium safety risk according to AR 385–10. The following procedures apply—

(1) Upon verification of a high safety risk condition, the program sponsor immediately notifies the U.S. Army Signal Corps (USASC) and prepares a draft SOUM for coordination. Upon completion of coordination within the appropriate AMC commodity command and approval by USASC, the program sponsor notifies the DCS, G–4 which will ensure proper staffing at the HQDA-level and secure final release approval from the DCS, G–4.

(2) Upon verification of a medium safety risk condition and determination by the program sponsor that a SOUM will be issued.

(3) All SOUMs will be transmitted as immediate precedence messages.

(4) A unique control number will be issued at the time of transmittal for each SOUM.

d. A ground safety action is issued when the risk condition assessment is a medium or low safety risk (see AR 385–10). The following criteria apply:

(1) For a medium safety risk condition for which the program sponsor has determined that a SOUM is not required, a ground safety action is prepared and staffed within the appropriate AMC commodity command and then is approved for release by the appropriate AMC commodity commander.

(2) For a low safety risk condition, the program sponsor prepares a ground safety action and staffs it within the appropriate AMC commodity command, with approval for release by the appropriate AMC commodity commander.

(3) All ground safety actions are to be transmitted as routine precedence messages.

e. A unique control number will be issued at the time of transmittal for each ground safety action. SOUMs and ground safety actions are addressed to ACOM, ASCC, and DRU commanders using Address Indicator Group 12523.

f. ACOMs, ASCCs, and DRUs will immediately acknowledge receipt of a SOUM or ground safety action to the originating organization or office listed on the message. If the ACOM, ASCC, and DRU fail to acknowledge receipt within 5 working days, the message originator will contact the ACOMs, ASCCs, and DRUs that failed to verify receipt.

g. ACOMs, ASCCs, and DRUs will disseminate SOUMs and ground safety actions within 24 hours to all subordinate units (see AR 25–1).

h. Compliance actions—

(1) ACOMs, ASCCs, and DRUs will develop compliance reports as required by the SOUM/ground safety action.

(2) Army equipment users will report compliance in accordance with their ACOM, ASCC, and DRU instructions and directives and immediately report additional deficiencies discovered.

(3) Depot activities will acknowledge receipt of each SOUM or ground safety action, estimate when safety requirements will be accomplished, and confirm safety compliance by equipment serial number and SOUM, ground safety action date, and time group.

i. MMIS messages are used to notify Army personnel of Food and Drug Administration Class I, II, and III medical device and medical supply hazards alerts, and recalls. Equipment operators and medical

maintainers are to execute directions contained within the body of each message in accordance with AR 750–6.

9–6. Battle damage repair

a. The purpose of BDR is to return disabled equipment rapidly to combat or enable the equipment to self-recover. BDR procedures are designed for battlefield and training environments to be used in situations where standard maintenance procedures are not practical or possible. These procedures do not replace the standard maintenance procedures. The objective is to sustain the vehicle/equipment until permanent repairs can be performed.

b. Incorporate low-risk BDR procedures into peacetime maintenance training in both field and training-base scenarios. Approved BDR kits provide operators and maintainers with the capability to complete damage repair or routine equipment failure repair on the battlefield. Equipment repaired using BDR that is awaiting parts may continue to be operated based on the recommendation of qualified maintenance personnel with the approval of the unit commander. Peacetime BDR involves low risk fixes as prescribed in BDR TMs and is performed only in a training environment at the discretion of the commander. Low-risk repairs are accomplished without risk to personnel or further damage to equipment. Low-risk repair is applied under the supervision of qualified maintenance personnel. All BDR repairs are temporary and will be replaced with standard maintenance repairs at the first opportunity.

c. BDR is for those items of equipment having a significant impact on the outcome of combat missions. BDR requirements are usually written in BDR TMs. Some items of equipment may not require the development of a BDR TM. However, if a new or updated system is under development and BDR is required, the T2COM BDR agency will assist AMC in the development of a BDR TM. BDR doctrine and techniques will be evaluated during a U.S. Army ballistic research live fire test. Live fire test plans will incorporate BDR into live fire tests on Army equipment to ensure that BDR can be performed and that it is incorporated into appropriate publications. Recording and reporting procedures for BDR are in ATP 4–31.

9–7. Product quality deficiency report/equipment improvement reports

a. Product quality deficiency reports (PQDRs)/equipment improvement reports (EIRs) are filed and managed utilizing the Product Data Reporting and Evaluation Program tile on the website <https://www.pdrep.csd.disa.mil/>, using SF 368, online, by telephone, or by other means and are to be evaluated for possible follow-on actions to modify the equipment design, equipment operation, or maintenance instructions. The surfacing of equipment design deficiencies through the deficiency reporting process (PQDRs/EIRs) may result in a materiel change request being initiated. Deficiency reporting instructions are contained in AR 702–7–1, and DA Pam 738–751.

b. Army activities will assist, when requested, in the investigation, evaluation, and resolution of deficiency reports in a timely manner. The goal is to provide an interim or a final resolution of the report within 180 days after receipt.

c. The unit or activity that identifies the need for a PQDR/EIR is responsible for its submission.

d. When a PQDR/EIR results in a need for a modification to fielded equipment, the modification will be applied in accordance with AR 750–10.

e. The unit or activity may contact the LAR or logistics assistance office for guidance on PQDR/EIR.

9–8. Administrative storage of materiel

a. Administrative storage is the placement of materiel in a limited care and preservation status for short periods of time. This applies to MTOE and TDA units.

b. Administrative storage will be considered when—

(1) An activity lacks operating funds, people, and other resources, or when normal usage of its equipment is not adequate to sustain materiel readiness.

(2) Lack of maintenance resources causes an owning organization to be incapable of performing the required field maintenance of its equipment.

(3) Equipment that exceeds the capability of the owning organization to operate or maintain must be retained by that organization for contingency or other valid reasons.

(4) Completion of current mission does not require use of authorized equipment on a routine basis.

(5) Training requirements of units or individuals do not require the use of all MTOE equipment.

c. Before a decision is made to use administrative storage, the commander will consider all workable options for maintaining equipment readiness.

d. Senior commanders may authorize the administrative storage of their materiel within guidance furnished by AR 750–1 and this pamphlet. To the maximum extent practical, administrative storage of materiel will be controlled and supervised at battalion level or above.

e. When more than 25 percent of an organization's on-hand equipment must be placed in administrative storage, the ACOM, ASCC, and DRU commander will consider initiating action to reorganize the activity at a level of equipment authorization that can be operated and maintained.

f. All regularly scheduled preventive maintenance services are suspended while materiel is in administrative storage.

g. When like items are in use, they should be rotated with items in administrative storage to keep all items exercised and reduce the maintenance effort. When equipment is not rotated, it should be exercised in accordance with the exercise schedule in the TM for the equipment.

h. Equipment will be stored to provide maximum protection from the elements; to provide access for inspection, maintenance, and exercising; and to provide physical separation from active equipment.

i. Materiel removed from administrative storage will—

(1) Be restored to normal operating condition.

(2) Have all MWOs applied.

(3) Be returned to a normal PMCS schedule using the last type of service completed.

(4) Be calibrated, as required.

j. Commanders will provide the security necessary to prevent cannibalization or theft of materiel in administrative storage in accordance with AR 190–11 and AR 190–13.

k. Special maintenance plan, inspections, maintenance standards and procedures, or other readiness evaluations prescribed in applicable operator manuals will be followed. The applicable field maintenance TM and TM 1–1500–204–23–1 will be used for aircraft. Performance of the services is the responsibility of the unit storing the materiel. Required services, inspections, and evaluations will be recorded on DA Form 5988–E or DA Form 2404 and retained for the duration of the administrative storage or 365 days, whichever is shorter. Faults noted during these actions will be corrected as quickly as practicable.

l. The application of CICs to reduce the progression of corrosion will be administered in accordance with TB 43–0213 and spot painting as required in accordance with TM 43–0242 and TM 43–0243.

9–9. Unique Item Tracking Program

The UIT Program requires the visibility and tracking by serial number of selected items and installed components as prescribed in DoD 4140.1–R and AR 710–3. The objective of the UIT program is to maintain visibility of each unique identified asset for the primary purpose of inventory control and engineering analysis. Security, accountability, safety, maintenance, operational readiness, warranty, and other areas that may benefit from the tracking process are subsets of the inventory control or engineering analysis functions.

a. UIT reporting requirements for Army-controlled small arms, security risk non-nuclear missiles and rockets, controlled cryptographic items, and radiological testing and tracking assets are prescribed in AR 710–3. HQDA will approve additional assets for serial number tracking via UIT.

b. All assets within the supply system subject to UIT tracking have a UII for each individual asset being controlled or managed. A UII can be the item's serial number, the vehicle identification number, and so on as long as no other UIT asset has the same identifier within the NSN or national item identification number. Installed components, as specified in AR 710–3, also require UII assignment.

c. All UIT programs will include provisions for data entry into TELS and other information systems using AIT. AIT enables the capturing of source data in an almost error-free process, enhancing the maintainers' ability to identify, track, document, and control materiel and maintenance processes. Optical and digital scanning and reading devices are included in the family of AIT enablers.

d. Army procurement policies for the 21st century require MATDEVs to ensure manufacturers place readable serial number markings on equipment.

9–10. Army Corrosion Prevention and Control Program

The Army Corrosion Prevention and Control (CPC) Program procedures and guidance are in accordance with AR 11–42 and AR 750–1. CPC is an Army wide responsibility to minimize the negative effects of corrosion on Army assets. The Army will achieve this goal by improving awareness, accountability, and effectiveness of CPC practices. Corrosion prevention starts with Soldiers and leaders enforcing PMCS,

which includes cleaning, servicing, spot painting, identifying and replacing gaskets and seals, and properly storing equipment and repair parts.

a. The first step in CPC is ensuring operators or crews perform PMCS and identify corrosion at its earliest stages. Keeping equipment clean and in serviceable condition is the first line of defense against corrosion. CPC is a critical consideration in assuring the sustained performance, readiness, economical operation, and service life of Army systems and equipment. It requires active consideration in the materiel development, acquisition, fielding, operation, and storage processes. CPC requires life cycle management planning and action in design, development, testing, fielding, training, and maintenance. CPC is achieved through the incorporation of the latest state-of-the-art corrosion control technology in the original equipment design, in the manufacturing, in all levels of maintenance, in supply, and in the storage processes. The objective is to minimize corrosion by using design and manufacturing practices that address selection of materials; coatings and surface treatments; production processes; process specifications; system geometry; material limitations; environmental extremes; storage and ready conditions; preservation and packaging requirements; and repairs, overhaul, and spare parts requirements. There are several proven technologies and procedures that units can employ to reduce the effects of corrosion on their equipment. The level of corrosion protection needed is based on environmental severity. All locations to which the Army stations or deploys are classified by their environmental severity Classification. Severity Classifications are addressed in UFC 1-200-01 (wbdg.org) and DoDI 5000.67 which can be accessed at TACOM's corrosion website (common access card enabled): <https://apps.tacom.army.mil/corrosion>. Two examples of corrosion effects reduction are the controlled humidity preservation program and corrosion inhibiting preventative maintenance applications.

(1) Controlled Humidity Preservation Program.

(a) Long-term preservation is permanent shelter designed to maintain equipment stored for a period of one to three years at a specific relative humidity.

(b) Modified long-term preservation provides the same benefits of long-term preservation but is intended for storage of equipment from 90 days to one year.

(c) Operational preservation is an easily installed capability designed for crew compartments and enclosed equipment spaces (such as M1, M2, M3, and M109) to reduce the effects of moisture on electronic components. The Single Vehicle Environment Stabilization System is designed to prevent moisture in crew compartments of specific tactical vehicles (M1, M2/3, M109, and M88).

(2) Corrosion inhibiting preventative maintenance applications.

(a) CICs will be applied by field level personnel to prevent the effects of corrosion in accordance with the applicable equipment TM and TB 43-0213. Only the use of approved CPC products is authorized. For Army ground equipment, refer to TB 43-0213 and the applicable ETM. For aviation equipment refer to DA Pam 738-751, TM 1-1500-328-23, TM 1-1500-345-23 and TM 1-1500-344-23 series and the platform-specific equipment TM. Authorized cleaning equipment, compounds, and procedures will depend on the type of surface being cleaned and the supplies being used. The associated TM outlines the frequency of cleaning along with consideration of the operating environment. The frequency of cleaning should increase based on the environmental severity classification of the operating environment. When cleaning, remove dirt, salt, and other contaminants, as these accelerate corrosion. Authorized cleaning equipment, compounds, and procedures will depend on the type of surface being cleaned and the supplies being used. The associated TM outlines the frequency of cleaning along with consideration of the operating environment. Heavy-use equipment will require cleaning at least twice a month or immediately after operation if based within 1.25 miles of a saltwater environment. Perform a wash and rinse when directly exposed to dirt, mud, salt spray or splash, and other contaminants.

(b) Neutralize, clean, and treat spilled electrolyte and corrosive deposits found around battery terminals and battery areas. Clean areas of the equipment exposed to corrosive fire extinguishing substances within 4 hours after application. Clean saltwater deposits, including equipment exposed to significant amounts of salt water after shipment. Washers and a detergent cleanser are an acceptable method of cleaning for non-electronic equipment. It is important that water pressure not damage the equipment. The maximum pressure used on equipment varies (see the associated TM or TB for further guidance). Do not force water onto a surface or at gaskets, seals, and protective coatings. Unplug drain holes and ensure water-pooling areas are dried.

b. Thorough inspection of equipment is the second step in the CPC process. Check the condition of the equipment for corrosion, coating damage, trapped water, and contaminated surfaces. The frequency of the corrosion inspection should increase with the operational tempo and severity of the operational

environment. Visual inspection is an effective method for detection and evaluation of corrosion. Special attention for inspection should include fasteners, crevices, hinges, and points where metals join. The most common tools used in a visual corrosion inspection are a flashlight or magnifying glass to check pitting and cracking, an inspection mirror, and a non-metallic scraper. Remove the corrosion and clean, treat, or repaint accordingly using the approved paint in accordance with equipment specific TM, most often the Chemical Agent Resistant Coating (CARC) System, refer to TM 43-0242 for spot painting of Army Ground Equipment, TM 43-0243 for Army Watercraft and TM 1-1500-345-23 for Aviation Equipment. For aviation equipment, units must document corrosion and corrective action taken in the maintenance records using Cause Code 170 Corroded/Rusted using DA Form 2408-13-1. For ground equipment, operator/crews identify corrosion deficiencies and maintainers verify faults reported on the DA Form 5988-E. Unit maintenance personnel validate corrosion condition. The Maintenance manager verifies corrosion deficiencies with Cause Code 170 and object part code as applicable in accordance with AR 11-42, when creating a notification in the fault details cause code section in the GCSS-A WO process. Always check water entrapment areas, battery compartments, vent openings, drain holes, and electrical connectors as well as bare metal components and surfaces.

c. Preservation of clean, corrosion-free equipment is the third step of the CPC process. Preservation helps protect equipment and parts by providing coatings, lubricants, sealants, and water displacement compounds. Reapply preservatives and sealants after washing, before and after deployment, and for extended periods of equipment storage. CICs or preservatives are used to protect metal parts and components. They function by preventing electrolytes from contacting and corroding bare metal surfaces. Many of these compounds are also able to displace water and other contaminants from the metal surface and provide lubrication and corrosion protection as well. Use approved corrosion preventive compounds provided through the supply system. The supporting LAR can request an alternative corrosion prevention compound through the Systems Readiness Directorate when materials are not available.

d. Unit commanders have specific responsibilities for the Army CPC program. Unit commanders will appoint unit corrosion monitors (UCM), ensure all unit personnel receive CPC training appropriate for their skill level, review the effectiveness of unit CPC programs, and support CPC survey teams. See AR 11-42 to understand the full responsibilities for unit commanders.

e. UCMs will implement and coordinate the commander's CPC program, monitor proficiency of unit personnel performing CPC functions, determine the effectiveness of the unit's CPC program, and complete all other UCM responsibilities listed in AR 11-42.

f. CPC surveys are required in accordance with AR 11-42. Each major Army installation will be surveyed at least once every 4 years. See AR 11-42 and DA Pam 11-42 for Army CPC survey requirements and procedures.

g. Corrosion control efforts will continue after a system is fielded. Field maintenance is the first function of the Army Maintenance System. Maintenance operations assigned to the operators or crew to address corrosion include identification, annotation, and those corrective and preventive actions that are within the operator's capability to include the following:

(1) *Provide protection.* Providing protection is a simple and effective means of corrosion prevention. In accordance with TMs, units should consider using housing, covers, and other configurations to protect from environmental conditions that cause corrosion. This applies to all materiel, equipment, and supplies.

(2) *Cleaning.* Cleaning is a necessary first step to prevent corrosion and wear. Clean Army materiel on a routine basis as part of the Army maintenance program to prevent equipment degradation and deterioration. Cleaning frequency will vary depending on the operating environment, surface contamination, and equipment usage. Appropriate TMs contain cleaning instructions and frequency. Perform aircraft washes at a minimum of every 30 days in accordance with TM 1-1500-328-23.

(3) *Inspections.* A thorough CPC program includes inspections. Perform corrosion inspections on equipment on a recurring basis in accordance with instructions included in the equipment-specific TM. When no TM has been developed for the item or if a CPC inspection interval is not included, the CPC coordinator will recommend inspection intervals to the unit commander based on severity zone considerations for the location the equipment is being operated. At a minimum, conduct CPC inspections during regularly scheduled services.

(a) Visually inspect equipment in accordance with equipment TMs.

(b) Perform nondestructive test inspections in accordance with the equipment-specific TMs, American Society for Testing and Materials, or applicable industrial specifications.

(c) Document inspection findings and report them in accordance with DA Pam 11-42.

(4) *Painting.* The primary purpose for painting Army materiel is to protect metals from corrosion.

(a) The CARC system in accordance with MIL–DTL 53072F is the approved paint system for all combat and combat-support equipment; tactical vehicles; aircraft, including unmanned; and essential ground support equipment and repairable containers, such as engine, transmission, and all DoD military munitions, containers, including appropriate kits.

(b) Repair scratches, chips, or marring of the paint surface observed during PMCS at field level to prevent corrosion damage.

(c) Proper paint touch-up involves a series of preparatory steps prior to top-coat application. These steps include contaminant removal, cleaning, pretreatment, and priming.

(d) Corrosion inhibiting preventive maintenance applications. CICs can be applied by field level personnel and are encouraged as a measure to prevent the effects of corrosion.

1. Only use approved CPC products.

2. Authorized products are listed in equipment TMs or are approved by the appropriate engineering authority.

(5) *Training and awareness.*

(a) Organizations should integrate CPC procedures into personnel training to increase safety and awareness and to improve Army materiel readiness. Individuals should have knowledge of the types and the causes of corrosion, the ability to detect and recognize corrosion, and the expertise to select and implement preventative measures.

(b) All new equipment training, for both operators and maintainers, will include a block of instruction intended to aid the user in identifying and mitigating the effects of corrosion on equipment, including nondestructive inspection and testing.

(c) As a minimum, unit personnel engaged in CPC procedures should receive initial corrosion training and refresher training once every 2 years. This CPC training will include the following: Corrosion theory, CPC publications, Cleaning, Inspection, Preservation, Storage, Mitigation, and Reporting.

(d) Aviation, missile, and aerospace systems training for corrosion monitors and nondestructive test inspectors is available through the Aviation and Missile Command LCMC.

(e) For more information on training resources, please visit Instruction-Aid/Publications & Handouts (CPC-Instructional-Aids) at [https://armyeitaas.sharepoint-mil.us/sites/tacom-ilsc/sitepages/ibomid-mid-corrosion-instruction-aid-publications%26handouts-\(CPC-Instructional-Aids\).aspx](https://armyeitaas.sharepoint-mil.us/sites/tacom-ilsc/sitepages/ibomid-mid-corrosion-instruction-aid-publications%26handouts-(CPC-Instructional-Aids).aspx).

h. The AMC LCMC CPC programs (TACOM, AMCOM, U.S. Army Communications-Electronics Command (CECOM), and Joint Munitions Command (JMC)) periodically travel to specific Army installations to conduct corrosion surveys on Army weapons and support equipment which are LCMC specific managed equipment, provide corrosion field level maintenance demonstrations and to evaluate then provide recommendations regarding unit CPC programs and maintenance processes and reporting.

i. Survey findings will provide unit commanders:

(1) Status on unit CPC program/CPC training needs.

(2) Equipment technical corrosion assessments.

(3) Equipment fleet status.

(4) Corrosion maintenance action requirements for assets assessed.

j. Benefits to maintenance facilities with paint booth operations.

k. Provide Technical assistance and advice on the following:

(1) CPC Program.

(2) CMDP Checklist.

(3) Over-the-shoulder review and guidance on current operations.

(4) Inspection.

(5) Cleaning.

(6) Surface preparation.

(7) CARC System application.

(8) QA/QC.

(9) Corrosion control office point of contact. AMC, headquarters, G3 LRC/FMx, DSN: 256–450–6828.

l. The TACOM Corrosion Office is the proprietor for the following:

(1) TM 43–0242, TM 43–0139, and TB43–0213.

(2) TACOM Corrosion SharePoint (common access card enabled): <https://apps.tacom.army.mil/corrosion>.

(3) TACOM Corrosion team email—usarmy.detroit.tacom.mbx.ilsc-corrosion@army.mil.

- m. The AMCOM Corrosion Office is the proprietor for the following:
 - (1) TM 1-1500-335-23, TM 1-500-366-23, TM 1-500-204-23, TM 1-1500-328-23, TM 1-1500-342-23, TM 1-1500-345-23, TM 1-1500-237-PMI.
 - (2) AMCOM Corrosion team email—usarmy.redstone.amcom.mbx.g3m-corrosion-program-office@army.mil.
- n. The CECOM Corrosion Office is the proprietor for the following:
 - (1) TB 43-0118.
 - (2) CECOM Corrosion team email is cecomcorrosionprogramoffice@army.mil.
 - (3) CECOM Corrosion Office Share Point <https://armyeitaas.sharepoint-mil.us/teams/cecomcorrosionprogramoffice/sites/pages/crisiscommunicationhome.aspx>.
- o. The JMC Corrosion team email is usarmy.ria.jmc.mbx.cpc@army.mil.

9-11. Army Battery Program

The Army Battery Program provides policy guidance on the use and maintenance of military and commercial standard batteries and rechargeable/reusable batteries.

a. *Lead-acid batteries.* Commanders will use batteries prescribed by the technical and equipment manual. Commanders will order only approved batteries as batteries require replacement. MATDEVs will ensure that suitable valve regulated lead acid (VRLA) batteries, that support the performance specifications required by technical and equipment manuals are available for use. Commanders will order and use VRLA batteries as replacement batteries are required. As an exception, flooded wet cell batteries may only be used when VRLA batteries are not available or not yet approved for use in accordance with the technical and equipment manual. VRLA and flooded wet cells are not authorized to be mixed in accordance with TB 9-6140-252-13.

(1) Equipment operators or crews are responsible for inspecting installed batteries for cleanliness and obvious damage in accordance with applicable operator TMs. Operators/crews will report faults on a 5988-E to their field maintenance activity for action.

(2) Field level and sustainment level maintenance activities conducting a battery recovery and recharging mission are authorized to inspect, install, remove, test, and conduct recharging of batteries installed in/on authorized equipment, activate, charge, recharge, issue, reissue, diagnose, test, recover, and temporarily store serviceable/unserviceable batteries and related support materiel.

(3) Commanders will ensure that all battery maintenance management programs are operated in an OSHA/Environmental Protection Agency compliant manner.

b. *Accountable property systems/care of supply in storage/administrative storage/long term storage.* Equipment in long term, LUP will have all automotive batteries fully recharged and balanced in accordance with applicable TMs and TBs prior to placing in storage. At a minimum, all automotive batteries in long term storage or limited use programs will be fully recharged every six months and tested to verify full state of charge. The exception is batteries maintained on approved maintainer/conditioning equipment. Commanders will use approved solar maintainers for equipment in LUP, or in outdoor storage.

c. *Rechargeable communication-electronic batteries.* All units will use rechargeable CE batteries for garrison duty and training (to include training at the combat training centers) and will develop rechargeable battery SOPs.

(1) Unit battery SOPs will address the following:

(a) Describe the primary CE batteries the units currently use when replacing batteries and which rechargeable batteries to use instead of the primary.

(b) The number of primary and rechargeable CE batteries required annually for supporting the equipment on hand.

(c) The number of chargers required for supporting the equipment on hand.

(d) How best to logistically support the recharging of these batteries.

(e) Duties and responsibilities of Soldiers relating to the use and management of rechargeable batteries.

(f) The proper recharging process, use, care, and maintenance of rechargeable batteries.

(g) Lithium (disposable) battery recovery and reuse program.

(h) Duties and responsibilities of Soldiers relating to the collection and disposal (to include proper place for disposal) of all batteries used in the unit.

(2) Commanders will maximize use of rechargeable batteries during peacekeeping operations where appropriate.

(3) Commanders may use rechargeable batteries during wartime as a viable alternative power source when rechargeable batteries and their logistics planning have been incorporated into the units' training plan. Rechargeable/reusable batteries will not be used when:

(a) Front line tactical units have adequate standard batteries for mission accomplishment. Commanders may use the rechargeable batteries:

1. Based upon short supply.
2. At tactical operation centers, support units, and rear echelons during wartime to free up primary assets for combat units.

(b) Temperature exceeds the operational temperature range for rechargeable batteries, generally below negative 4 degrees Fahrenheit and above 122 Fahrenheit.

(c) Recharging is not practical, such as when the time between resupply actions requires users to stock an excessive amount of rechargeable batteries.

d. *Battery disposal.* Each installation will operate battery disposal operations in accordance with the qualified recycling program and applicable regulatory guidance. All disposal contracts should include revenue generation as a key consideration. Units or activities with no installation support will develop local disposal capabilities in accordance with applicable regulations and qualified recycling programs, as necessary.

Chapter 10

Command Maintenance Discipline

Section I

Command Maintenance Discipline Program Procedures

10–1. Overview

The CMDP is a commander's program. It does not prohibit or replace other formal or informal evaluation of maintenance programs conducted at the discretion of commanders, such as maintenance assistance and instruction teams (MAIT), command maintenance evaluation teams (COMET), or inspector general (IG) inspections. The CMDP is a tool to evaluate unit maintenance programs on a day-to-day basis. The CMDP is oriented toward equipment readiness, sustainability, and combat readiness. The overriding principle of CMDP is the Soldier's and units' abilities to maintain their equipment in any environment. CMDP checklists and inspection criteria are established at ACOM, ASCC, DRU, and National Guard Bureau (NGB) level. See the baseline CMDP checklist (in the Ordnance SharePoint site under Quick Links at: <https://goordnance.army.mil/>). Division and below units will conduct a CMDP inspection annually. Corps and ASCCs will conduct a CMDP inspection biennially. This chapter implements the CMDP and lists Army management controls. The CMDP addresses supervisory and managerial responsibilities within the maintenance system from the user to the O–5/LTC and O–6/COL command levels.

a. The CMDP is a compilation of existing regulatory requirements. Commanders will implement the CMDP by using their existing resources.

b. Examples of existing resources include Command Inspection Program, Internal Review Office, and staff personnel (see AR 1–201 and AR 11–2).

c. Whichever activity the commander designates to assist with implementing the CMDP, that designated activity will incorporate CMDP policy in its evaluation plans and procedures. Additionally, local IGs at the commander's discretion may conduct special inspections using the systemic methodology for determining root causes for problems identified through the CMDP.

10–2. Purpose

a. The purpose of the CMDP program is to—

- (1) Establish maintenance discipline as regulatory guidance.
- (2) Develop maintenance discipline requirements.
- (3) Provide responsible personnel with a single listing of maintenance policy requirements.
- (4) Make the Army more efficient with respect to time spent monitoring subordinates' actions.
- (5) Eliminate repeated findings of non-compliance with policy.
- (6) Serve as a checklist for internal management controls.
- (7) Identify and resolve logistical problems adversely affecting readiness.

- (8) Establish reporting procedures required to identify maintenance issues in order to improve the conduct of maintenance and sustainment of all MTOE and TDA equipment.
- b. To achieve the stated purposes, implementation of the CMDP will—
- (1) Ensure compliance with DA maintenance policy and procedures.
 - (2) Determine the adequacy of established DA maintenance policy and procedures.
 - (3) Identify maintenance problems to permit timely corrective action within the chain of command.

10–3. Enablers to Commander Maintenance Discipline Program

- a. MAIT.
- b. COMET.
- c. Maintenance Terrain Walk Program.
- d. Army Awards for Maintenance Excellence (AAME).
- e. LCMC CPC Office.
- f. Installation Safety Office.
- g. Installation IGs Office.
- h. Hazard Material Communication and Handling.

Section II

Program Guidance

10–4. Concept

To assure proper implementation of the CMDP, the intent of the program is as follows:

- a. The CMDP in conjunction with other maintenance programs helps to ensure compliance with maintenance regulations and policies. To accomplish this, the CMDP assists commanders by making them aware of maintenance conditions in their command.
- b. CMDP is an inspection program. Responsible personnel expect to use the program to—
 - (1) Gain familiarity with established policies.
 - (2) Enforce compliance with policy by subordinate personnel.
- c. Inspections are a necessary part of the CMDP to monitor performance. The intended result of these evaluations is to present the facts to the commander so the chain of command can initiate prompt corrective action.

10–5. Inspections

The CMDP is a program conducted by commanders or their designated representatives. Commanders at all levels will conduct or ensure a formal inspection of brigade and below size units by their parent organization that has training, resourcing, and authority on an annual basis. ACOMs, ASCCs, and DRUs will conduct formal biennial inspections on their next lower commands (for example, division and corps). The brigade, combat aviation brigade or equivalent O–6/COL command level will keep the results of the annual inspections for 2 years. ACOMs, ASCCs, and DRUs will keep annual inspections on file for 2 years (4 years by ARNG and Reserve Component (RC) commands). Commands will review the results of the formal inspections as part of the overall maintenance program and ensure training and corrective actions occur.

- a. User, battalion, and brigade level staff, division, ACOM, ASCC, DRU, and NGB level—
 - (1) Commanders will use the CMDP to ensure maintenance discipline. The most effective means of ensuring maintenance discipline is to have an internal self-administered program implemented on a routine basis.
 - (2) The normal recording of the inspection and results (for example, inventories, and record keeping) is required.
 - (3) At the completion of an evaluation by a higher headquarters, the evaluation team along with the inspected unit or organization will determine a suspense date to resolve discrepancies.
- b. Parent organizations and higher commands—
 - (1) The immediate level above the unit or organization is the parent organization.
 - (2) The parent organization and higher command levels are required to evaluate the subordinate commands for compliance with established policy.
 - (3) Formal annual evaluations for brigade and below units and no less than biennial for EAB units.

- (a) Provide supervisors with feedback on their maintenance discipline performance.
- (b) Identify maintenance problems and resolve difficulties before they become critical.
- (c) Determine if resolution of past findings are complete and appropriate.
- (4) Each organization and higher command (battalion and above) will maintain a file of evaluations.
 - (a) Date of evaluation.
 - (b) Organization evaluated.
 - (c) Findings and associated suspense dates.
 - (d) Repeat findings.
- (5) Some evaluation findings of non-compliance may be due to circumstances beyond the control of the evaluated organization (for example, the discrepancy is a result of conflicting command or policy guidance). The level conducting the evaluation is then responsible for elevating a finding to the appropriate level capable of resolving the discrepancy.
 - c. Formal annual evaluations (every 2 years for ARNG and RC)—
 - (1) The purpose of the evaluation is to determine unit compliance with regulatory guidance.
 - (2) CMDP evaluations will include the following:
 - (a) The review of the unit maintenance files, SOP, TELS, tool rooms, safety programs, and hazard materials.
 - (b) Ensure that school-trained maintenance personnel are working in maintenance positions. Verify and review labor to determine utilization efficiencies.
 - (c) A comparison of a representative sample of completed maintenance transactions crosschecked with equipment services or repairs.
 - (3) Inspectors will record findings and review the results of the last inspection to determine if past discrepancies were resolved. Inspections will be on file with the unit and headquarters.
 - (4) Evaluators will brief the organizations' supervisors and commander on the findings. For each finding, the supervisor or commander will establish an internal suspense date for resolving of each discrepancy.
 - (5) In the case of repeat findings, the chain of command will take action to correct the problem and to re-establish compliance.
 - (6) The inspected organization will receive a copy of each inspection made under CMDP. The copy will specify all non-compliance findings along with the respective suspense dates determined by the supervisor or commander. The inspector will also retain a copy of the inspection and use it for follow-up on corrective actions during the next inspection.
 - (7) If major problems with procedure or policy surface during the CMDP inspection, the inspection team will elevate the findings up the chain of command to appropriate level capable of resolving the problems.
 - (8) In summary, the sequence of events is as follows:
 - (a) Organization inspected.
 - (b) Organization's supervisor or commander establishes suspense dates for corrective actions.
 - (c) Supervisor or commander is required to utilize inspection results to improve maintenance discipline.
 - (d) Future CMDP inspections will include a review of corrective action(s) taken on the last inspection.
 - (e) Repeat findings require chain of command notification and assistance.

Section III

Command Maintenance Discipline Program Enablers

10–6. Maintenance Assistance and Instruction Team Program/Command Maintenance Evaluation and Training

- a. MAIT/COMETs Program procedures will include the following:
 - b. The MAIT/COMET Program will be operated as a decentralized program.
 - (1) Teams will be established at installations or comparable levels in CONUS and at ACOM, ASCC, and DRU, corps, division, separate brigade, or comparable levels in overseas areas.
 - (2) The teams will be clearly identified in mission and function statements or operating regulations.
 - (3) A MAIT/COMET will not be established when troop or equipment density does not warrant it. In such cases, the responsibility for providing assistance and instruction is assigned to an established team within the geographic location.
 - c. Personnel assigned to a MAIT/COMET may participate in command inspections, annual general inspections, AT evaluations, spot checks, roadside inspections, or any other command evaluation program.

d. Site assistance visits are a normal function of the MAIT/COMET and the results of site assistance visits will not be used as a basis for derogatory information or for adverse command action. When resources permit, each Regular Army and RC unit will be visited annually. Visits to RC units will take place during scheduled drills and assemblies or during AT periods.

(1) The MAIT/COMET consists of the minimum number of subject matter experts required to meet the needs of the visited unit.

(2) MAIT/COMET visits will be directed for specific units not meeting acceptable readiness standards or levels. Direct communication will be established between the units in need of assistance and the supporting MAIT/COMET.

(3) Coordination between the unit and Regular Army MAITs/COMETs will take place at least seven working days prior to a directed or programmed visit. ARNG MAITs will coordinate visits at least 30 calendar days prior to a directed or programmed visit.

(4) MAITs/COMETs will have the capability to assist and instruct units in improving operations and management in the following areas:

- (a) Maintenance program processes.
- (b) PMCS/command maintenance execution.
- (c) Motor pool organization.
- (d) Army Records Management.
- (e) AAME/Secretary of Defense field maintenance award preparation.
- (f) Motor pool safety.
- (g) Publications management.
- (h) CMDP/MTW programs.
- (i) TELS functions.
- (j) Equipment utilization requirements.
- (k) Hazardous material communication.
- (l) TMDE programs.
- (m) CBRN programs.
- (n) CPC programs.
- (o) Maintenance training programs.
- (p) Property book management.
- (q) DST training.
- (r) Asset visibility training.
- (s) Communications equipment training.
- (t) Arms rooms/small arms maintenance management.
- (u) Unit leaders courses.
- (v) Supply rooms management/operations.
- (w) Command supply discipline program/Supply Excellence Award preparation.

(5) The MAIT will consist of team chief and sufficient personnel to provide effective assistance and instruction to supported units. Team size depends on the following:

- (a) Number and type of supported units and their geographic dispersion.
- (b) Density and type of equipment supported.
- (c) Commodities and areas that assistance and instruction will address.
- (d) Frequency and time allotted for visits.

(6) Military and civilian personnel selected for assignment to MAITs will meet the following criteria:

- (a) Possess technical skills, knowledge, and ability in their commodity or specialty areas.
- (b) Have a broad general knowledge in a related secondary logistics field.

(7) MAIT/COMET personnel authorizations will provide sufficient spaces to maintain program continuity during periods of personnel turbulence.

(8) Visits to units with specialized equipment (for example, aviation, medical, signal, missile) may require temporary addition of qualified personnel.

(9) MAIT/COMET personnel will be cleared for access to defense information according to AR 380-67. Clearance will be equal to the Classification of the equipment and documents to be reviewed during the visits.

(10) Responses to a request for assistance and instruction will be made by the following:

- (a) Telephone or electrical means.
- (b) Visit of selected personnel.

- (c) Visit of entire team.
- (11) MAIT/COMET visits are categorized as the following:
 - (a) Requested visits arranged by the unit commander requiring a MAIT or by commanders requesting a MAIT for subordinate units.
 - (b) Directed visits scheduled in advance.
 - (c) Programmed visits scheduled in advance.
- (12) Upon conclusion of the visit, the MAIT/COMET will—
 - (a) Conduct an informal review of the visit. Persons present for the review will include the commander of the unit visited and others selected by the commander. The critique should cover the total scope of the visit and include problem areas, remedial action initiated or recommended, and areas recommended for follow-up.
 - (b) Prepare a visit summary.
 - (c) Discuss areas requiring external assistance with the unit commander. After this discussion, a separate letter will be prepared to describe problems that require outside assistance. The MAIT/COMET will submit this letter to the organization, headquarters, activity, or agency capable of taking action. The MAIT/COMET will also furnish a copy of the letter to the commander of the unit visited.
 - (d) The unit commander will be given an evaluation questionnaire to assess the performance, quality of assistance, and instruction provided by the MAIT/COMET.
- (13) The success of the MAIT/COMET Program depends largely on the quality of the assistance and instruction provided. To enhance the program, it is essential that the MAIT/COMET capabilities be widely publicized. Suggested methods are flyers, daily bulletin notices, and articles in local news media, referral cards, command websites, and briefings for newly assigned key personnel. Another effective method is to distribute a newsletter to supported units. Some of the subject areas that can be included in a newsletter are:
 - (a) MAIT/COMET lessons learned.
 - (b) Logistics information of general interest.
 - (c) Solutions to common problems encountered by MAIT/COMET.
 - (d) Situations that require quick remedial action.
 - (e) Mobilization.
- (14) The primary duty of MAITs/COMETs during mobilization is to augment the resources of the command or installation to which they are assigned. The teams will also develop the capability to perform the following tasks during mobilization and intensified buildup operations:
 - (a) Provide assistance and instruction in equipment pre-embarkation reviews. This includes validation of condition Classification.
 - (b) Augment ACOM, ASCC, and DRU assistance team capabilities.
 - (c) Develop onsite training programs.
- (15) Team integrity should be retained, where possible, to facilitate efficient return to peacetime operations.
- (16) Consideration will be given to the allocation of mobilization augmentees for assignment to MAITs/COMET.
- (17) Records and reports will be handled as follows:
 - (a) A visit summary will be prepared after each visit. It will describe actions to be taken and problems that require assistance of a support organization or higher headquarters.
 - (b) A summary of a requested, directed, or programmed visit will be prepared and provided to the requesting commander, subordinate commander, and a copy placed into the MAIT/COMET privileged information file. It will describe actions to be taken and problems that require assistance of a support organization or higher headquarters.
 - (c) The MAIT/COMET will provide a written report quarterly to the headquarters of the activity to which it is assigned. The report will contain personnel spaces authorized, personnel assigned, number of units visited/man days expended, number of telephone inquiries completed, man days lost to temporary duty or leave, number of unit requests not completed and reasons why, and suggestions for improvement of the MAIT program.

10–7. The Maintenance Terrain Walk Program

- a. The Maintenance Terrain Walk Program is a leader development program that provides commanders with an in-depth review of the maintenance culture inside of their organizations. Its purpose is to

assure a high level of awareness and command interest in field maintenance by ensuring senior commanders understand how their maintenance program operates. The conduct of maintenance and a unit's ability to sustain operations over an extended period of time are the direct responsibility of the Commander.

b. The Maintenance Terrain Walk is a training event to be conducted within 180 days of assumption of command (it is not an inspection). It is conducted as an on-site discussion of battalion maintenance management and operations, which takes place in each unit area (motor pool, aircraft hangars, arms rooms, CBRN rooms, and other commodity shops).

c. Key maintenance personnel will be present to facilitate the conducting of the tour.

d. Additional information on the Maintenance Terrain Walk Program is available at the U.S. Army Combined Arms Support Command website <https://cascom.army.mil/asrp/build/files/mtw/index.html>.

Chapter 11

Equipment Regeneration, Reconstitution, and Reset

11–1. Intensively managed items

a. Intensively managed items (IMI) are equipment that is automatically inducted into a sustainment level regeneration program as a maintenance transaction and remains on the unit APSR. LCMCs place items on the IMI list because of expected extensive wear and tear experienced in high operating tempo (OPTEMPO) environments.

b. The IMI list identifies equipment that will receive OEM or depot maintenance. The transaction for IMI is as follows:

(1) LCMCs will provide disposition instructions and specific contact information on these items for turn in.

(2) IMI is a maintenance transaction, which will require a WO using TELS maintenance process.

(3) IMI items are turned-in "as is" condition, either shipped to SOR or to home station as directed.

(4) Major end items of the patriot missile system, to include ground support equipment, will be turned in as is, complete. All recoverable items will be present and installed on the major end item.

11–2. Decision support tool reset module

a. As part of the lead materiel integrator process, LDAC built the Reset Planning module within DST, <https://dst.ldac.army.mil/#/resetplanning>. This module, as well as modifications to existing DST modules, contain the functionality needed to enable Unit Reset Planning.

b. DST Reset Module provides a collaborative integrated tool for commanders to view directed equipment regeneration planning and disposition for organizations' equipment.

c. AMC has enhanced this tool to allow the automatic build of equipment regeneration plans. DST Reset Module auto-generates directed equipment regeneration plans for UICs using GCSS–A data to identify on-hand equipment eligible for focused regeneration.

d. AMC builds plans. Once executed, the LCMCs provide disposition instructions to the SORs for workload planning. ACOMs, ASCCs, and DRUs will ensure redeploying units induct all equipment into directed regeneration programs no later than 30 days after arrival at home station.

Chapter 12

Unit Maintained Equipment

12–1. Unit maintained equipment standards

a. Equipment that remains at home station during deployment will be considered Unit Maintained Equipment (UME) and will be maintained according to the Army maintenance standard in AR 750–1 to ensure equipment readiness for future contingencies.

b. Corrosion prevention and maintenance steps remain in effect as written in the applicable TMs.

(1) Safeguard all property and equipment, including all associated components and materials. Examples include basic issue item, component of end item, special tools, and repair parts.

(2) Perform PMCS quarterly with all (before, during, after, weekly, and monthly) checks accomplished at a minimum quarterly.

(3) Exercise all equipment in accordance with paragraph 4–7.

- (4) Maintain all equipment maintenance plans (services).
- (5) Maintain all equipment records, MMIS data, and Gun Cards (DA Form 2408–4 (Weapon Record Data)) in the appropriate TELS.
- (6) Enforce the use of the Army Battery Program (see para 9–11).

12–2. Contracted augmentation for unit maintained equipment

a. When contracted augmentation is required, units will request contract support through their chain of command and according to the prescribed policies and procedures established by their respective ACOM or ASCC. Final support coordination and approval will be between the ACOM or ASCC and AMC.

b. When contracted augmentation is requested to support the UME, units will—

- (1) Develop a UME concept of support and plan.
- (2) Adjust requirements for contracted augmentation to account for administrative storage and expected use of equipment.
- (3) Consider the use of administrative storage on equipment with minimal maintenance requirements meeting the administrative storage requirements in paragraph 9–8.
- (4) Lateral transfer, divest, or turn-in all excess equipment to reduce maintenance requirements.
- (5) Provide logistics and maintenance leadership for the UME mission.
- (6) Provide operators for TELS to support the UME mission.
- (7) Provide QA program for oversight of the program with the appropriate COR/QA representative for the duration of the contract to ensure contract deliverables achieve the requirements stated in this paragraph.
- (8) Provide maintenance facility, repair parts, and all specialized tools and equipment to support the UME mission.

Chapter 13

Non-Standard Equipment Maintenance and Sustainment

13–1. General

This chapter outlines the procedures to sustain Non-Standard Equipment (NSE) used by Army forces and defines requirements for the performance and management of NSE.

13–2. Non-standard equipment maintenance procedures and structure

a. The basis of NSE maintenance is to ensure the NSE provides the capability it was procured to do. NSE operator manuals are likely the only information available to the user.

- (1) Performance observation is the basis of the preventive maintenance checks in accordance with the operator.
- (2) The user must document observed performance against established capability needed to accomplish the mission and report problems that degrade the equipment reliability.
- (3) Maintenance standard: NSE meets the maintenance standard when the following conditions exist:
 - (a) NSE meets the maintenance standard when the equipment is FMC and safe to operate (determined from the applicable manufacturer's TM and DST Catalog).
 - (b) Identify faults and record using TELS in accordance with the owner/operator manual.
 - (c) Report corrective actions not provided at the field level to qualified personnel responsible for performing maintenance.
- (4) Record Maintenance Plan within TELS and perform services at intervals required by the applicable manufacturer or by AMC/PM organizations.
- (5) Due to safety implications, units will not modify or alter NSE and must request modifications through their ACOM, ASCC, or DRU Headquarters to AMC. AMC will consult DST Catalog and manufacturer for approval to alter NSE.

b. Maintenance records—

- (1) Sustainers (for example, AMC and PM) will ensure maintenance records are accurate, complete, and entered in the DST Catalog Website (<https://www.eis.army.mil/programs/aesip-hub>) for items selected for storage. Records from TELS may also be used. Units will not enter unit-procured, unit-owned NSE in AESIP but will list items in the DST Catalog database in accordance with AMC process procedures.

(2) See AR 710–2, for SSL authorization for unit maintenance organizations co-located with an SSA.

13–3. Non-standard equipment inspection and repair

a. Units will conduct inspections according to equipment maintenance and serviceability standards applicable to the manufacturer.

b. A sustainment repair and return program is a process whereby NSE is retrograded to AMC elements at posts, camps and stations, forward repair activities, contract facilities or PM and the same or like-item is direct exchanged or repaired and returned.

13–4. Non-standard equipment contractor logistics support

a. Depending on the sustainment strategy, AMC, or the PM will determine when and how contractor logistics support (CLS) is the primary SOR. AMC or the PM is the only authorized activity to establish CLS contracts.

b. The negotiating, awarding, funding, and managing of all maintenance contracts are the responsibility of AMC or PM to support NSE (see AR 700–127 for further guidance).

13–5. Non-standard equipment Army Warranty Program

a. The overall policies and procedures for the Army Warranty Program are contained in AR 700–139, which requires the Army to use warranties only when the warranty is in the Army's best interest. The decision to obtain a warranty is on a case-by-case basis.

b. Units may leverage LCMC LARs to assist with warranty related matters.

c. AMC will manage unit procured and unit-owned NSE warranties through a memorandum of agreement on a reimbursable basis for administrative time and labor.

Chapter 14

Medical Device Maintenance and Sustainment

14–1. General guidance

a. This chapter outlines the procedures to sustain medical devices used by Army forces and defines requirements for the performance and management of medical devices. Because medical devices are commercial with a mix of standard and nonstandard LINs, they often lack standardized documentation and have unique supportability requirements.

b. Information for Class VIII TMDE and MMIS messages are addressed in paragraphs 7–2c and 9–5i respectively.

14–2. Medical device maintenance procedures and structure

a. The basis of tactical medical device maintenance is that it must sustain a medical device to provide the capability it was procured to do. Medical device operator and service manuals are likely the only information available to the user, although many are augmented by PMCS checklist.

b. Performance observation is the basis of preventive maintenance checks in accordance with the operator and Biomedical Equipment Specialist (BES), MOS 68A.

c. The operator must document observed performance against the manufacturer's established capability and report problems that degrade the device's reliability.

d. Maintenance standard. A medical device meets the maintenance standard when the following conditions exist:

(1) When the medical device is FMC and safe to operate (determined from the applicable manufacturer manuals and PMCS checklist).

(2) Faults are identified and recorded using TELS in accordance with PMCS checklist/OEM literature.

(3) Corrective actions not provided at the field level are reported to qualified personnel responsible for performing maintenance.

(4) All maintenance plans are executed based on the end item code level maintenance plan in the TELS. For devices that lack a system level maintenance plan, services are conducted at least annually unless the service literature or PMCS checklist defines a different interval, and remedial and scheduled services are recorded and managed within the TELS.

(5) Due to safety implications, units do not unilaterally modify or alter medical devices without requesting modifications through the U.S. Army Medical Logistics Command (AMLC).

(6) Costs for the repair procedure are within the MEL in accordance with TB MED 750–2.

e. Maintenance managers must assess the medical device MEL as it applies to all corrective maintenance actions. The estimated repair cost to return a medical device to a fully operational condition must be less than or equal to the MEL. Calculating the MEL in advance of corrective-maintenance performance allows maintainers to determine if it's more economical to perform a corrective maintenance action or replace the medical device (see TB MED 750–2 for MEL calculation formulas).

f. All other non-expendable medical devices have a wide range of life expectancies as follows:

(1) Developmental or non-commercial military unique items up to 80 percent of the acquisition cost.

(2) Special purpose items (for example, X-ray tube heads, dental surgical headpieces, and rigid or flexible fiber optic scopes) up to 90 percent of the acquisition cost.

g. For more information on MEL for medical devices, see TB MED 750–2.

h. Manage unit and organization repair parts and maintenance-related supplies in accordance with AR 710–4 and TB MED 750–2.

i. Maintenance records—

(1) Owning units are responsible for entering maintenance data into the TELS. This includes all operator faults as well as faults requiring BES support.

(2) Bench stocks recorded in TELS are authorized for field maintenance operations (when medical device is approved as part of the unit's mission essential equipment list), except for unit procured, unit owned medical device.

14–3. Medical device inspection and repair

a. The Army maintenance standard, as defined in AR 750–1, establishes an Army wide evaluation baseline for maintenance programs.

b. In conjunction with this standard, operator-level 10 series and organizational-level 20 series standards provide clearly stated, measurable objectives and define end-state performance conditions that must be successfully achieved upon completion of medical device maintenance.

c. Units will conduct PMCS according to TB MED 750–2, following serviceability standards prescribed in OEM literature and PMCS checklist.

d. Units will maintain medical devices to comply with a 90-percent unit equipment readiness goal, as specified in AR 700–138, and unit readiness objectives stated in AR 220–1.

e. Maintenance managers will proactively use the maintenance support chain (for example, Medical Logistics Company (MLC), home station medical maintenance support (where available)), AMLC Logistics Assistance Program, and/or Medical Maintenance Operations Division (MMOD) when maintenance requirements exceed the unit's organic capability.

f. A sustainment repair and return program is a process whereby an NMC medical device is retrograded to support elements (theater lead agent for medical materiel, MMOD) at posts, camps and stations, or forward repair activities, and the same or like-item is directly exchanged or repaired and returned.

g. Cyclically scheduled medical device maintainer-level PMCS as well as unscheduled services should only be performed by the following qualified personnel:

(1) Health service maintenance technicians (MOS 670A).

(2) BES (MOS 68A).

(3) Properly trained DoD civilians and contractors.

14–4. Medical maintenance structure

a. Field level maintenance. Field level maintenance for medical devices is generally the same as that for other Army commodities. However, operator/crew and maintainer maintenance have some unique medical requirements.

(1) Operator maintenance is conducted by device operators using the OEM operator manual. Medical device operator maintenance is normally restricted to tasks that can be performed without tools or test equipment or is described in the operator literature.

(2) Operators are system specialists in military occupational specialties (for example, 68D Army Operating Room Specialist, 68E Dental Specialist) that receive formal training from their proponent (normally

advanced individual training, and specialized functional courses) on equipment operation, minor repairs, and identifying specific system faults. Their primary focus is on a system's performance and integrity.

(3) BES maintenance is maintenance accomplished on a component, accessory, assembly, subassembly, plug-in unit, or other portion either on the system or after it is removed by a trained maintainer in CMF 670A or 68A.

b. Sustainment maintenance. Sustainment level medical maintenance is performed by national level maintenance providers within the AMLC organization. Below depot medical maintenance is performed by the Medical Materiel Centers and MLCs when designated as well as support field maintenance services in accordance with ATP 4-02.1. The sustainment maintenance function can be employed at any point in the integrated logistics chain utilizing contact repair teams, forward repair activity-medical, and repair and return services from the MMODs.

(1) Below depot sustainment maintenance is maintenance accomplished on a component, accessory, assembly, subassembly, plug-in unit, or other portion generally after it is removed from the system.

(2) Depot maintenance is maintenance accomplished on end items or on a component, accessory, assembly, subassembly, or plug-in unit, either on the system or after it is removed. Depot sustainment maintenance can be performed by either depot personnel or qualified contractor personnel. Items are used to support the wholesale supply system or conditional support to the using unit.

14-5. Support from external maintenance and supply organizations

Units will use all organic maintenance capability to perform field maintenance to the maximum extent possible. Passback maintenance can be coordinated with the local Logistics Senior Technical Representative. If maintenance is beyond its capability or capacity of the organic unit or local MLC, further maintenance support will be coordinated through the Logistics Assistance Program.

14-6. Medical device warranty program overview

a. Overall policies and procedures for the Army Warranty Program are contained in AR 700-139 and TB MED 750-2. In warranty applications, unit readiness and mission effectiveness will take priority. If the medical maintenance activity is not able to get an effective response through the warranty process, then repair first and settle later through the acquisition support activity.

b. Warranty implementation: AR 700-139 provides procedures for administering warranties. Organizations with medical device assets will establish local warranty implementation procedures in accordance with TB MED 750-2.

c. Refer to AR 750-1 for warranty service requirements.

Appendix A

References

Section I

Required Publications

Unless otherwise stated, Department of the Army publications are available on the Army Publishing Directorate website at <https://armypubs.army.mil/>.

AR 11–42

Army Corrosion Prevention and Control Program (Cited in para 4–1b(3)(c).)

AR 220–1

Army Unit Status Reporting and Force Registration-Consolidated Policies (Cited in para 2–2c(2).)

AR 700–138

Army Logistics Readiness and Sustainability (Cited in para 2–2b(2).)

AR 700–139

Army Warranty Program (Cited in para 8–5a.)

AR 710–2

Secondary Item Policy and Retail Level Management (Cited in para 4–1c(7).)

AR 710–4

Property Accountability (Cited in para 4–9j(6).)

AR 725–50

Requisitioning, Receipt, and Issue System (Cited in para 4–11d.)

AR 750–1

Army Materiel Maintenance Policy (Cited in para 1–1.)

AR 750–6

Army Equipment Safety and Maintenance Notification System (Cited in para 9–5b.)

AR 750–10

Army Modification Program (Cited in para 4–1c(10).)

AR 750–43

Army Test, Measurement, and Diagnostic Equipment (Cited in para 7–2a.)

DA Pam 738–751

Functional User's Manual for the Army Maintenance Management System-Aviation (TAMMS–A) (Cited in para 2–3d.)

TB MED 750–2

Operations and Management Guide for Operating Force Medical Device Maintenance (Cited in para 7–2c.)

Section II

Prescribed Forms

Unless otherwise indicated, Department of the Army forms are available on the Army Publishing Directorate website at <https://armypubs.army.mil/>.

DA Form 2401

Organization Control Record for Equipment (Prescribed in para 4–5e(5).)

DA Form 2404

Equipment Inspection and Maintenance Worksheet (Prescribed in 4–2h.)

DA Form 2408–4

Weapon Record Data (Prescribed in para 12–1b(5).)

DA Form 2408-14

Uncorrected Fault Record (Prescribed in para 4-17c.)

DA Form 5587

Report of Drydocking, Painting and Condition of Vessel Bottom (Prescribed in para 6-4a.)

DA Form 5984-E

Operators Permit Record (EGA) (Prescribed in para 4-5d(5).)

DA Form 5987-E

Motor Equipment Dispatch (EGA) (Prescribed in para 4-5e(5).)

DA Form 5987-1-E

Motor Equipment Dispatch – Alert (EGA) (Prescribed in para 4-5e(5).)

DA Form 5988-E

Equipment Maintenance and Inspection Worksheet (EGA) (Prescribed in para 4-1b(3)(c).)

DA Form 5990-E

Maintenance Request (EGA) (Prescribed in para 4-1d.)

DA Form 7567

Special Repair Authority (SRA) Approval/Disapproval Sheet (Prescribed in para 5-1a.)

DA Form 7957

Preventative Maintenance Schedule and Record (Prescribed in para 4-21b(1).)

DD Form 1970

Motor Equipment Utilization Record (Available at <https://www.esd.whs.mil/>.) (Prescribed in para 4-5e(5).)

Appendix B

Maintenance Metrics and Performance Measures for Army Field Organizations

B-1. Army-level metrics for field commands

TLRT-M and TAT are described in tables 2-2, 2-3, and 2-4 of this pamphlet.

a. TLRT-M.

(1) AMC will provide TLRT-M reports to each Army organization to which maintenance support is provided under the provisions of AR 750-1. TLRT-M reports will also be made available to parent commands of these organizations.

(2) TLRT-M supports readiness requirements of AR 700-138. It begins when an item becomes NMC and includes the following:

(a) The time that the supported organization takes to prepare and submit an unserviceable item to a maintenance provider.

(b) The time the maintenance provider takes to repair the item.

(c) The time the supported organization requires to pick up the repaired item, if it is AR 700-138 reportable, the time to return the item to "A" status.

b. TAT.

(1) AMC will provide TAT reports monthly to each maintenance provider organization and will make them available to their parent commands.

(2) TAT is the period that elapses between the time that a maintenance organization accepts a field or organization WO, followed by accomplishment of the work, and the time at closeout of the WO.

(3) TAT is the foundation metric for the maintenance provider. The objective of all Army maintenance providers is to achieve TAT on all WOs within the time frame required by the warfighter or customer, as indicated by the MPD. More detailed metrics for assessing and controlling internal operations of maintenance providers are found in tables 2-2, 2-3, and 2-4 of this pamphlet.

B-2. Army commands, major Army subcommands (down to division and separate brigade), U.S. Army Installation Management Command and regions, and Reserve Component maintenance management metrics

Additionally, TLRT-M and TAT, commanders will use TAT scorecards to manage and support their maintenance provider organizations, to ensure that the maintenance mission is accomplished and that maintenance provider organizations are properly resourced. AMC will establish and maintain TAT scorecards for each ACOM having a maintenance support mission maintenance provider organization. The following scorecard data elements for commands having maintenance provider organizations:

a. Number of maintenance organizations.

b. Number of maintenance organizations achieving green status in the Sustainment Enterprise Analytics (SEA).

c. Number of maintenance organizations achieving amber status in the SEA for a reporting period.

d. Number of maintenance organizations achieving red status in SEA for a reporting period.

e. See AR 700-138 for measures of sustainability.

B-3. Maintenance provider (modification table of organization and equipment and table of distribution allowances contractor) organization management metrics

a. Army wide management of the mission performance by Army maintenance provider organizations, organic and contractor, is founded on the capture and analysis of historical data records from the TELS. The key data record that must be captured is the closed WO. Unit TAT performance is measured in the SEA for each maintenance provider, by UIC, using the closed WO.

b. When TAT scorecards reflect that mission performance requires improvement (it is not in the green category), responsible commanders will take appropriate corrective action to improve maintenance organization performance/support to organization operations.

c. Commanders of large organizations that control maintenance provider organizations, commanders of MTOE units, LRCs, and contract supervisors must aggressively manage the aspects of the operations that they can directly control. They must also give early notice to their external support systems when mission operations will be adversely affected. All areas affecting mission operations will be kept under management over-watch; however, manpower utilization will receive special management attention. All

commanders will give special emphasis to the management of maintenance personnel. The objective is to achieve the peacetime manpower availability rate defined in AR 570–4 for garrison operations. Commanders will maintain utilization records and make them available for review.

B–4. Turnaround time and internal operations

a. TAT is the overall measure of the duration of the maintenance cycle. It gives an indication of the responsiveness of the maintenance organization to its supported organization. TAT is computed by commodity and initial rejects are excluded. It covers the period of time from acceptance of a WO to closeout but does not include time awaiting pickup.

b. TAT will be determined as follows:

(1) The number of calendar days between the acceptance date and the closeout for each work.

(2) The WOs are arranged in ascending order based upon the number of calendar days.

(3) The average of calendar days for the remaining WOs is calculated.

(a) 25 percent of WOs with long TAT times in paragraph B–4b(2) will be the subject of intensive scrutiny to resolve their particular problems, but will not be allowed to distort the average of TAT that is intended to be representative of normal operations.

(b) Although there may be variations among WOs, TAT can comprise three major components—maintenance delay time, supply delay time, and repair cycle time (RCT). Although the factors that comprise or influence these components are not always controllable at the local level, effective corrective actions cannot be managed until the problems have been identified and traced to the probable cause.

c. Commanders and LRCs will use AMC generated TAT reports and locally developed TAT reports to assist them in meeting mission performance standards.

B–5. Maintenance codes

Figure B–1 lists the WO system CCs found in GCSS–A. See paragraphs B–6, B–7, and B–8 for more detail on these codes.

System Condition Code	Descriptions
0	Evacuated awaiting NON-NMC parts
1	Awaiting deadlining NMCS Parts
2	Awaiting deadlining NMCS parts-local purchase
3	Await NON-NMCS parts-local purchase
4	Evacuated awaiting maintenance
5	Scheduled services
6	Re-inspection
7	Awaiting float transaction
8	Rework, return to shop
9	Begin in-transit time
A	Awaiting initial inspection
B	In Shop
C	Awaiting Shop
D	Deferred
E	Awaiting final inspection
F	Final inspection complete
G	Road Test/Test Flight
H	Awaiting disposition from higher
I	In shop while awaiting non-NMC parts
J	In shop awaiting NMCS parts
K	Awaiting non-NMC parts
L	Evacuated NMCS
M	Evacuated NMCM
N	Evacuated Depot
O	Awaiting evacuation
P	NMC for lack of resources
Q	Awaiting estimated cost of damage
R	Awaiting pickup
S	Closed, technically complete
T	Closed,completed by other maint.A
U	Picked up, must be closed first
V	Work request closed, ORF exchange
X	Work request closed, exceeds time
Z	Work request closed, w/out comp

Figure B-1. Maintenance codes

B-6. Maintenance delay time

a. Maintenance delay time is the component of TAT that represents time spent awaiting a required resource other than repair parts, that is, the availability of facility space, tools, TMDE, and skilled personnel. It also includes time awaiting initial, in-process, and final inspections and time awaiting induction into the shop.

b. Maintenance delay time is calculated using the same segment of WOs completed during the period as used to calculate TAT. It is determined by calculating the mean number of calendar days that WOs in the segment were carried in status codes indicating awaiting inspection, awaiting shop, or awaiting some action other than receipt of repair parts. It will also be expressed as a percentage of the TAT.

c. The following WO system condition status codes qualify as MDT (see fig B-1):

- (1) A: Awaiting initial inspection.
- (2) C: Awaiting shop.
- (3) D: Deferred.
- (4) E: Awaiting final inspection.
- (5) H: Awaiting disposition.
- (6) O: Awaiting evacuation.
- (7) P-NMC for lack of resources.
- (8) 4: Evacuated awaiting maintenance.

d. Local commanders will establish a standard for maintenance delay time in terms of its percentage of total TAT. When an increasing trend is observed, the following will be reviewed:

e. Availability and utilization of direct labor personnel.

f. Inspection procedures.

g. The ratio of direct labor personnel to workstations by shop section; balance labor among workstations.

h. The adequacy of the quantity of tools and TMDE.

i. The adequacy of lift and materiel handling equipment.

B-7. Supply delay time

a. Supply delay time is the component of TAT that represents time lost waiting for receipt of repair parts. It includes only that time when no further maintenance action can be taken because of a lack of repair parts. Time elapsed while repair parts are on order, but other maintenance actions are, or could be, taken will not be counted as supply delay time.

b. Supply delay time is calculated using the TAT segment of WOs completed during the period. It is determined by calculating the average number of calendar days that WOs in the segment were carried in status codes indicating no further action possible while awaiting receipt of repair parts. It is also expressed as a percentage of the total TAT.

c. The following WO system condition status codes qualify as supply delay time in the GCSS-A system (see fig B-1):

- (1) 0: Evacuated awaiting non-NMC parts.
- (2) 1: Awaiting NMC-S parts.
- (3) 2: Awaiting dead-lining parts NMC-S local purchase.
- (4) 3: Awaiting non-not mission capable, supply (NMCS) parts local purchase.
- (5) I: In shop awaiting non-NMC parts.
- (6) J: In shop awaiting NMCS parts.
- (7) K: Awaiting non-NMC parts.

d. The local commander in terms of its percentage of total TAT should establish a standard for supply delay time.

e. When an increasing trend is observed, the following will be reviewed:

- (1) Requisition priorities.
- (2) Reconciliation procedures.
- (3) Authorized stockage list.
- (4) Supply performance measures, including the following:
- (5) Gross availability or fill rate.
- (6) Average customers wait time.
- (7) Requisition processing time.
- (8) Receipt processing time.

B-8. Repair cycle time

a. RCT is the component of TAT that represents time spent in the shop undergoing inspection, repair, or service. It is the primary component that measures actual maintenance performance rather than detractors to performance as measured by the two delay time components. RCT comprises or is influenced by several factors, including skills, efficiency of repair personnel, and the required numbers of personnel at each step in the maintenance process.

b. Because it is the only delay component that is subject to distortion by a small percentage of the total, the RCT will be calculated using all the WOs completed during the period. It will be determined by calculating the average number of calendar days that the WOs were carried in status codes indicating in shop.

c. RCT codes are as follows (see fig B-1):

- (1) 5: Scheduled service.
- (2) 6: Re-inspection.
- (3) 8: Rework/return to shop.
- (4) B: In-shop.
- (5) F: Final inspection complete.
- (6) G: Road test/flight test.

d. Installation-level commanders will establish standards for total RCT, by priority of the WO. When an increasing trend is observed, the factors affecting RCT will be reviewed and analyzed, as indicated by supervisors and leaders.

B-9. Backup support utilization

a. Backup support utilization is a measure of the extent of workload transferred to an organization charged with the responsibility of absorbing overflow workload.

b. The senior commander will establish the standard for backup support utilization. The senior commander will also consider the unit's capacity as stated in its MTOE. When an increasing trend is observed, the following items will be reviewed:

- (1) The trend of workload acceptance to identify an increase in work coming in from supported units.
- (2) The supported density lists to identify additional quantities supported.
- (3) Direct labor availability to identify a decrease in labor capacity.
- (4) Direct labor utilization rate to identify a decrease in effective use of personnel resources.

B-10. Repaired item rejection rates

a. The rejection rate is the number of items being reprocessed into a commodity shop for rework, divided by the total number of items repaired.

b. Commanders and LRCs will maintain rejection rate records for all commodity shops, to include the following:

- (1) In-shop and final inspection rejections.
 - (2) Rejections and returns for correction of the same problem within 30 days after closeout of the WO.
- Rejections must be separately validated as actual performance faults.

c. The Army maximum rate standard for rejections of work on mechanical equipment is three percent. The Army standard for rework of electronic items is two percent. Local commanders and LRCs may establish lower standards if talent and capabilities permit.

d. Factors that could affect quality of performance of maintenance/repair procedures and validation inspections include the following:

- (1) Training and competence of maintenance, repair/quality control personnel.
- (2) Thoroughness and rigor of in-process and final operations quality control checks and inspections.
- (3) QA measures that are internal and external to commodity shop operations.
- (4) Adequacy and serviceability of tools and test equipment.
- (5) Calibration of tools and test equipment.
- (6) Adequacy of facilities.

B-11. Equipment utilization metrics

a. The Army Standard for usage reporting metric of rolling stock and tracked vehicles will be in miles.

(1) The TELS will accept distance measuring points as identified by the MMDF (designated as miles or kilometers or both) but will provide usage reports in miles for OPTEMPO calculations.

(2) Some rolling stock and maneuver equipment such as M1 Abrams may be fielded with the capability to report in both miles and kilometers, but the TELS will only accept usage inputs in accordance with the MMDF and provide auto-calculated usage reports in miles.

(3) TELS will be engineered to provide safeguards against erroneous data inputs and flag excessive usage deviations for verification.

(4) Usage metrics for other forms of equipment will be identified on the MMDF as directed by the Assistant Secretary of the Army for Acquisition, Logistics and Technology PEO to capture equipment usage for OPTEMPO calculations. These metrics may be rounds fired, hours operated, cycles, and so on.

(5) PMCS tables in the TM will be considered and the metrics selected must conform to the TELS ability to track usage.

b. The Army standard for usage compliance is as follows:

(1) Commands will validate at least 25 percent of equipment usage in TELS versus equipment actual odometer reading quarterly.

(2) Units will validate different equipment each quarter.

(3) If the quarterly validation determines that usage data is more than 20 percent inaccurate, the unit must validate 100 percent of unit equipment usage data and make corrections as required in this pamphlet.

Appendix C

Department of Defense Core Capabilities Determination Process

C–1. General

This appendix contains instructions for completing DoD Depot Maintenance Core Capabilities Determination Process.

C–2. Depot maintenance core capabilities determination process

a. Description. DoD depot maintenance core capabilities policy provides the methodology used to identify essential core capabilities and the workloads necessary to ensure a ready and controlled source of technical competence to support strategic and contingency plans prepared by the Chairman of the Joint Chiefs of Staff.

b. Methodology. The Depot maintenance, (hereafter called Army sustainment–level), core capability determination methodology is used to identify essential core capabilities and the workloads needed to sustain those capabilities. The methodology will be used to assess requirements for individual items or processes, weapons systems, or types of capabilities as applicable. The Army computations involved in this methodology are automated within the LMP. Refer to DoDI 4151.20 for manual, step-by-step computation instructions. The methodology is divided into two parts.

c. Part 1 identifies specific Army weapon systems and equipment required to fulfill Chairman of the Joint Chiefs of Staff strategic and contingency plans and the sustainment maintenance core capability requirements in terms of DLH. Part 2 identifies the sustainment maintenance workloads required to cost-effectively support core capability requirements (expressed in terms of DLH).

Appendix D

Standard Operating Procedures

D-1. Areas to address in standard operating procedures

As a minimum, the following areas of the SOP should be addressed in detail—

- a. Maintenance-related duties and responsibilities for key unit personnel.
- b. The organization of the unit or FSC field maintenance platoon and section.
- c. GCSS-A and automation enablers.
- d. Dispatch procedures for unit equipment.
- e. Routine transaction and reporting requirements.
- f. AESIP, DA Form 2408-9 (Equipment Control Record), requisition status, asset visibility, usage verification, and publication listings.
- g. MWO, MMIS, SOUM, PQDR submissions online, and weapons data management online.
- h. PMCS as follows:
 - (1) Procedures that must be followed by personnel during scheduled field level PMCS periods.
 - (2) Procedures that must be followed by all unit personnel associated with field level PMCS checks and scheduled services.
 - (3) Procedures for fault recording and correction.
 - (4) Support provided to operators for PMCS by field level maintenance activity.
 - (5) 5988-E Flow (see fig 4-1).
- i. Calibration of tools and TMDE.
- j. Tool accountability and control procedures.
- k. Safety requirements, as follows:
 - (1) All applicable safety guidance associated with equipment maintenance.
 - (2) Shop safety and training requirements.
 - (3) SOP and SOUM messages.
 - (4) Environmental and hazardous materials waste management.
 - (5) Lifting and holding device servicing.
 - (6) Arc welding and cutting.
 - (7) CARC.
 - (8) Storage and handling of compressed gases.
- l. Unit maintenance training as follows:
 - (1) The unit's program for operator and crew 10 level proficiency.
 - (2) Field level maintainer cross-training.
 - (3) Procedures required for acquiring a government equipment operator's license (DA Form 5984-E and OF 346).
 - (4) The unit driver and technician badge awards program.
 - (5) Motor pool security.
 - (6) Readiness reporting.
 - (7) Publications.
- m. WO management are as follows:
 - (1) Maintenance priorities and task management.
 - (2) Controlled exchange procedures and requirements.
- n. Maintenance evacuation requirements and procedures.
- o. Equipment classifications.
- p. End item and component classifications.
- q. ECOD and ACOD preparation procedures.
- r. MEL.
- s. BDR.
- t. Repair parts (Class VIII or CLIX) management as follows:
 - (1) SF 368 (Product Quality Deficiency Report (PQDR)) preparation and reporting.
 - (2) Involvement in equipment dispatch, scheduled services, and command inspections.
- u. Development of SSL.
- v. Battery management program.
- w. Recoverable management.

- x. Scrap material management (non-hazardous material).
- y. Warranty management program.
- z. Equipment winterization and extreme climate program.
- aa. Maintenance terrain walk.
- bb. Army CPC program.
- cc. Quality control procedures and training.
- dd. Arms Room Maintenance Operations
- ee. CBRN Maintenance Operations

Glossary of Terms

After operation checks

PMCS performed in accordance with the TM/ETM–10 series PMCS tables at the conclusion of the mission to identify and correct faults that will preclude the next mission and to maintain the equipment to TM–10 series and TM–20 series PMCS maintenance standard. Faults that render the equipment NMC and are within the authorized level of repair of the operator/crew to correct must be corrected immediately. Faults above the operator/crew-authorized level of repair are immediately reported to field maintenance for correction prior to the start of the next mission. Field maintenance performs unscheduled corrections required by reports from operator/crew and performs required services in accordance with TM/ETM–20 series to maintain the equipment to the TM–10 series and TM–20 series PMCS maintenance standard.

Assembly

See AR 710–1.

Available days

The hours equipment is on hand in an organization and fully able to do its mission; the time that equipment is FMC.

Battle damage repair

Essential repair, which may be improvised, carried out rapidly in a hostile environment in order to return battle damaged or disabled equipment to temporary service.

Calibration

Comparison of an instrument with an unverified accuracy to an instrument of known or greater accuracy to detect and correct any discrepancy in the accuracy of the unverified instrument.

Cannibalization

See DoDI 4151.18.

Capability

See DoDI 4151.26 and DoDI 500.87.

Configuration

The functional/physical characteristics of hardware/software set forth in technical documentation and achieved in a product.

Corrective maintenance

Corrective maintenance is a maintenance task performed to identify, isolate, and rectify a fault so that the failed equipment, machine, or system can be restored to an operational condition within the tolerance of limits established for in-service operations. See DoDD 5000.1 and DoDI 5000.2.

Deficiency

A fault or problem that causes equipment to malfunction. Faults that make the equipment NMC are deficiencies.

Equipment end item

A final combination of assemblies, components, modules, and parts that is designed to perform an operational function and is ready for intended use. These end items are normally type classified and assigned line item identification numbers but may require other end items to perform a mission (for example, tank, truck, radio, generators, and machine guns).

Equipment readiness code

A one-digit code explaining an item's importance to a unit's combat, combat support, or service support mission. The codes are assigned to items on MTOEs.

Equipment services

Specified maintenance actions performed on equipment, components, and systems when required, including providing routine checks, adjustments, changes, analysis, and lubrication, in accordance with designer and engineer specifications.

Failure

The event, or inoperable state, in which any item or part of an item does not, or would not, perform as previously specified.

Fault

A term used to indicate that a piece of equipment has a deficiency or shortcoming.

Fault isolation

Test performed to isolate faults within a piece of equipment.

Fault repair

The process used by operators and maintenance personnel to restore an equipment item to full functionality as originally designed or engineered.

Field maintenance

See DoDI 4151.18.

Field maintenance activity

A USAR/ARNG activity that provides field maintenance for Federal surface equipment issued to supported units.

Fully mission capable

A materiel condition indicating that systems and equipment are safe and have all mission-essential sub-systems installed and operating as designated by applicable Army regulation. An FMC vehicle or system has no faults that are listed in the “not fully mission capable ready if” columns of the TM–10/20 series PMCS tables and AR 385–10 provisions that apply to the vehicle/system or its sub-system required by AR 700–138. The terms ready/available and FMC refer to the same status: equipment is on hand and able to perform its combat missions.

Hardness maintenance

Comprehensive procedures that are applied during the post-production phase of the acquisition cycle to ensure that the designated hardness does not degrade.

Hardness surveillance

Periodic tests, analysis, and inspections performed at the system level throughout a system’s life cycle to monitor hardness integrity.

Initial operating capability

First attainment by the MTOE unit of the capability to operate and support effectively in their operational environment a new, improved, or displaced Army Materiel System.

Inspection

See DoDI 4140.27.

Line item number

A six-position alphanumeric number that identifies the generic nomenclature of specific types of equipment. Standard LINs consist of one alpha character followed by five numeric characters. Standards are assigned by the AMC and are listed in EM 0007 FED LOG.

Logistics information system

Legacy automated systems used to communicate with other units on vertical and horizontal flow of logistics and maintenance information and status.

Logistics product data

That portion of PSA documentation consisting of detailed data pertaining to the identification of product support resource requirements of a product. Depending upon specific program requirements, this data may be in the form of summary reports, a set of specific data products, or both.

Maintainability

Characteristics of design that inherently provide for the retention of/restoration of a specified condition within a given period when maintenance is performed by prescribed procedures and resources.

Maintenance capability

See DoD 4151.18–H.

Maintenance concept

The intended maintenance workload distribution within the Army Maintenance System and the force structure required to maintain the end item or weapon system. It is largely based on the organization and operation plan and is an integral portion of the logistics section of the requirement document.

Maintenance engineering

The application of techniques, engineering skills, and effort organized to ensure that the design and development of weapon systems and equipment provide adequately for their effective and economical maintenance.

Maintenance operations

The management and physical performance of those actions and tasks involved in servicing, repairing, testing, overhauling, modifying, calibrating, modernizing, and inspecting materiel in the operational inventory and the provision of technical assistance to equipment users in support units of the Army Logistics System.

Maintenance plans

Specified maintenance actions consisting of routine checks, adjustments, changes, analysis, and lube to equipment, components, and systems according to the designer and engineer specifications. They include repair of faults and deficiencies as determined by performance observations, system and component checks, analysis, updates, and Army equipment safety and maintenance message notification system messages required actions.

Maintenance standard

A measure that specifies the minimum condition to which materiel must be restored by repair, overhaul, or some other maintenance function to ensure its satisfactory performance for a specified period of service.

Major assembly

Separately identified by type, model, and series and assigned item ID number (EM 0007 FED LOG). For example, receivers, or receiver transmitters in radio sets and machine guns or other weapons in secondary armaments subsystems of combat vehicles.

Materiel change

Configuration change involving substantial engineering and testing efforts on major end items to increase system/combat effectiveness or extend the useful military life.

Materiel developer

The principal Army MATDEVs are the Army PEOs/PMs. For non-PEO/PM-managed systems, other MATDEVs include AMC, U.S. Army Information Systems Command, U.S. Army Intelligence and Security Command, U.S. Army Corps of Engineers, U.S. Army Medical Materiel Development Activity, and Defense Command.

Materiel maintenance

The function of sustaining materiel in an operational status, restoring it to a serviceable condition, or updating and upgrading its functional usefulness through modification or other alteration.

Mission-essential materiel

That materiel authorized and assigned to approved combat and combat support forces that should be immediately employed to: destroy the enemy or its capacity to continue war; provide battlefield protection of personnel; communicate under war conditions; detect, locate, or maintain surveillance over the enemy; and permit contiguous combat transportation and support of forces and materiel. Equipment assigned to training missions of the same type and configuration as that assigned to combat and combat support forces and designated to be immediately employed for the purposes enumerated above is also mission essential materiel.

Modernization

See DoDI 1225.06.

Modification

Modification is the alteration, conversion, or modernization of an end item or component of investment equipment that changes or improves the original purpose or operational capacity in relation to effectiveness, efficiency, reliability, or safety of that item.

Module

An assembly containing a complete self-contained circuit or sub-circuit. It may consist of a single printed circuit board (PCB); in which case it is synonymous with a PCB or may comprise two or more PCBs mechanically attached to one another and removable from the next high assembly as a single unit.

Not mission capable

A materiel condition indicating that equipment cannot perform any one of its combat missions. NMC time is divided into NMC maintenance or NMC supply.

Oil analysis

A test or series of tests (spectrometric and physical property) that provide an indication of equipment component and oil condition by applying methods of quantitative measurement of wear metals and detection of contaminants in an oil sample.

Operator/crew maintenance

Operator/crew maintenance is the cornerstone of Army maintenance, the first and most critical operation of the Army Maintenance System. It starts with the operator/crew performing PMCS using the applicable TM-10 series.

Overhaul

Maintenance performed to restore an end item to a serviceable condition in order to meet its intended economic useful life. It focuses on restoring functionality to original technical specifications without incorporating new technology or capabilities. Typically funded with Operation and Maintenance, Army (OMA).

Pacing items

Major weapons or equipment systems of such importance that they are subject to continuous monitoring and management at all levels of command. Pacing items are identified in AR 220-1. Pacing items are noted on DA Form 5990-E or DA Form 2407.

Part

An item that cannot normally be disassembled or repaired or is of such a design that disassembly or repair is impractical (for example, bracket, gear, resistor, or toggle switch).

Partially mission capable

Material condition of an aircraft or training device indicating that it can perform at least one but not all of its missions because of maintenance requirements existing on the inoperable subsystem(s). PMC is divided into PMC maintenance and PMC supply.

Performance observation

The process by which the operator observes equipment performance against established standards and reports problems that degrade equipment before they become catastrophic. Performance observation is the foundation of the Army maintenance program and is the basis of PMCS that is required by all equipment TMs in the before, during, and after operation checks.

Preventive maintenance

See DoDI 4151.22.

Preventive maintenance checks and service

Preventive maintenance checks and service is the care, servicing, inspection, detection, and correction of minor faults before these faults cause serious damage, failure, or injury. The procedures and the category of maintenance to perform PMCS are found in the TM, LO, and TM/ETM 10 and 20-series.

Product support analysis

The analysis required to create the package of support functions required to field and maintain the readiness and operational capability of major weapon systems, subsystems, and components, including all functions related to weapon system readiness.

Readiness

See DoDM 4140.01

Rebuild

Maintenance performed to restore a component to a like-new condition in appearance, performance, and life expectancy (near zero miles/near zero hours). Rebuild often incorporates new technology when

practical to improve reliability and maintainability. Rebuild establishes a new economic useful life. Typically funded with OMA.

Repair

Restoration or replacement of components (sustainment level) or end item (field level) which immediately addresses degradation, damage, or failures that does not extend the enhanced use leasing.

Repairable

Class VIII/IX secondary items that carry an MRC of D, F, H, or L.

Repairable item

An item that can be restored to perform all its required functions by corrective maintenance.

Replace

Replace is defined as removal of consumable/repairable unserviceable item/component, and installation of a serviceable item/component in its place. Replace is authorized by the MAC and assigned a maintenance level which is shown as the third position of the source, maintenance and recoverability code (Class II, III, V, and IX).

Reset

A set of actions at the field level to restore equipment to a desired level of combat capability commensurate with a unit's future mission. Reset reverses the effects of combat and training stress on equipment. Typically funded in OMA.

Single-standard repair

A process that seeks to ensure that a single repair standard is applied to all end items, secondary items, and components that are to be returned to the supply system.

Special repair authority

The specific approval given to a sustainment maintenance unit or activity, with the authorized special tools, test equipment and capability, to repair DA-designated items of materiel coded D or L in MACs for a period of time not to exceed one year.

Subsystem

A separately authorized item issued or intended to work with other items to form an operational unit or system.

Support equipment

All ancillary and associated equipment (mobile or fixed) required to separate and support a materiel system. This includes associated support items of equipment such as trucks, air conditioners, generators, ground handling and maintenance equipment, tools metrology, calibration, and communications equipment, test equipment, and automatic test equipment with diagnostic software for both on and off equipment maintenance.

Support system

Collectively, those tangible logistic support resources required to maintain a materiel system in an operationally ready condition. It is developed with the materiel system and merged with the ongoing logistic systems upon production and development.

Supportability

A key component of availability. It includes design, technical support data, and maintenance procedures to facilitate detection, isolation, and timely repair/replacement of system anomalies. This includes factors such as diagnostics, prognostics, real time maintenance data collection, and Human System Integration considerations.

Sustainment maintenance

Sustainment maintenance is the second operation of the Army Maintenance System. Sustainment maintenance is characterized by the performance of maintenance tasks, "off system" in a secure environment using trained personnel, tools, and TMDE. Sustainment maintenance is typically repair and return to stock and depot maintenance operations.

Sustainment maintenance core capability

Sustainment maintenance core is the capability maintained within defense depots to meet readiness and sustainability requirements of the weapon systems that support the Joint Chiefs of Staff scenario(s). Core capability exists to minimize operational risks and to guarantee required readiness for weapon systems. It will comprise only the minimum essential required facilities, equipment, and skilled personnel required to ensure a ready and controlled source of required technical competence.

Sustainment maintenance work requirement

A maintenance serviceability standard for sustainment level repairables designated for repair and return to Army working capital fund stock. It prescribes the statement of work to be performed on an item by organic depot maintenance facilities or contractors/qualified below-depot sources of repair; types and kinds of materiel to be used, and quality of workmanship. The DMWR also addresses repair methods, procedures and techniques, modification requirements, fits and tolerances, equipment performance parameters to be achieved, QA discipline, and other essential factors to ensure that an acceptable and cost-effective product is obtained.

Sustainment maintenance workload

A specific depot repair requirement for a specific item to be repaired. Units of measure include manhours, work years, costs, and sale prices.

System

A combination of equipment end items, assemblies, major components, components, modules, and parts assembled as a single functional unit to perform a task or mission.

Tactical enterprise logistics systems

A set of synchronized logistics applications and hardware used to track maintenance, property, cost of ownership and other financial transactions related to logistics for all Army Units within GCSS-A.

Technical inspection

A TI is a visual or instrumentation-driven check performed on a piece of equipment to verify it meets the specifications and conditions required by the Army maintenance standard. TIs are performed upon receipt, prior to repair, evacuation, or turn-in of unserviceable end items, or as directed to determine equipment's serviceability.

Test, measurement, and diagnostic equipment

Any system or device used to evaluate the operational condition of an end item or subsystem thereof to identify and isolate any actual or potential malfunction. This TMDE includes diagnostic and prognostic equipment; semiautomatic and automatic test equipment, to include test program sets (with issued software); and calibration test or measurement equipment. When the term TMDE is used, it refers to both general-purpose TMDE and special-purpose TMDE.

Unique item identifier

See DODI 4151.19

Unit identification code

A six-character code assigned to a specific unit. All units' organizations and activities use their own UIC. Contractors, manufacturers, and commercial activities do not have UICs.

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