

**Army Regulation 750–1**

**Maintenance of Supplies and  
Equipment**

# **Army Materiel Maintenance Policy**

**Headquarters  
Department of the Army  
Washington, DC  
28 October 2019**

**UNCLASSIFIED**

# ***SUMMARY of CHANGE***

AR 750–1

Army Materiel Maintenance Policy

This mandated revision, dated 28 October 2019—

- o Supersedes Army Directive 2017–31, Acquisition Reform Initiative #5: Aligning Sustainment Policy to Foster Cost Efficiency and Improved Readiness (paras 5–3*e* and 5–3*f*).
- o Adds recordkeeping requirements (para 1–5).

Effective 28 October 2019

## Maintenance of Supplies and Equipment

### Army Materiel Maintenance Policy

By Order of the Secretary of the Army:

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*General, United States Army*  
Chief of Staff

Official:

  
**KATHLEEN S. MILLER**  
*Administrative Assistant*  
to the Secretary of the Army

**History.** This publication is a mandated revision. The portions affected by this mandated revision are listed in the summary of change.

**Summary.** This regulation covers Department of the Army policy for general maintenance operations; commodity-oriented maintenance operations; maintenance management systems; inter-Service and contract maintenance support; sustainment

maintenance including national maintenance; maintenance support during acquisition; maintenance programs; and depot maintenance.

**Applicability.** This regulation 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.

**Proponent and exception authority.** The proponent on this regulation is the Deputy Chief of Staff, G–4. The proponent has the authority to approve exceptions or waivers to this regulation 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 civilian equivalent. Activities may request a waiver to this regulation 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 command or senior leader of the requesting activity and forwarded

through their higher headquarters to the policy proponent. Refer to AR 25–30 for specific guidance.

**Army internal control process.** This regulation contains internal control provisions in accordance with AR 11–2 and identifies key internal controls that must be evaluated (see appendix H).

**Supplementation.** Supplementation of this regulation and establishment of command and local forms are prohibited without prior approval from the Deputy Chief of Staff, G–4 (DALO–MNZ), 500 Army Pentagon, Washington, DC 20310–0500.

**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 (DALO–MNZ), 500 Army Pentagon, Washington, DC 20310–0500.

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

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\*This publication supersedes AR 750–1, dated 3 August 2017; and AD 2017–31, dated 15 November 2017.

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## Glossary

## **Chapter 1**

### **Introduction**

#### **1–1. Purpose**

This regulation establishes policies and assigns responsibilities for the maintenance of Army materiel. It provides and defines requirements for performance and management of the materiel maintenance function. It relates to two levels of maintenance: field and sustainment. Field consists of maintenance functions formerly known as operator and/or crew (equipment operators and vehicle crews), unit, and direct support. Sustainment consists of maintenance functions formerly known as general support and depot operations of the Army maintenance system and Armywide program for commodity-unique maintenance. This regulation also applies to maintenance of all materiel owned or supported by the Army, except materiel purchased with nonappropriated funds (see AR 215–1), special intelligence property, real property, foreign materiel used for training, leased/rented materiel (unless the lease and/or rental agreement dictates otherwise), medical, materiel maintenance as implemented in AR 12–1, and those aspects of combat and materiel development that impact the materiel maintenance function. The provisions of this regulation are applicable to all Army and civil-funded property under the direct control of the U.S. Army Corps of Engineers.

#### **1–2. References and forms**

See appendix A.

#### **1–3. Explanation of abbreviations and terms**

See glossary.

#### **1–4. Responsibilities**

Responsibilities are listed in chapter 2.

#### **1–5. Records management (recordkeeping) requirements**

The records management requirement for all record numbers, associated forms, and reports required by this regulation are addressed in the Army Records Retention Schedule–Army (RRS–A). Detailed information for all related record numbers, forms, and reports are located in the Army Records Information Management System (ARIMS)/RRS–A at <https://www.arims.army.mil>. If any record numbers, forms, and reports are not current, addressed, and/or published correctly in ARIMS/RRS–A, see DA Pam 25–403 for guidance.

## **Chapter 2**

### **Responsibilities**

#### **2–1. Assistant Secretary of the Army (Acquisition, Logistics and Technology)**

The ASA (ALT) will—

- a.* Ensure that materiel developers (MATDEVs) promote interoperability in the acquisition of systems and equipment.
- b.* Advocate maintenance considerations in role of chair for the Army Systems Acquisition Review Council (ASARC).
- c.* Establish reliability, maintainability, and supportability exit criteria in system-specific acquisition decision memorandum (ADM).
- d.* Approve type classification of systems as part of Milestone C, acquisition decision memorandum per AR 70–1.
- e.* Coordinate with the MATDEVs to ensure that depot-level maintenance is planned and that the depot maintenance source of repair (SOR) analysis has been completed and documented.
- f.* Ensure that an organic depot core logistics assessment and core depot assessment is conducted for all newly acquired systems and/or modifications for systems designated as core.
- g.* Co-chair the Army Organic Industrial Base Corporate Board (OIBCB) and provide senior executive service (SES) representation from acquisition and logistics to the Army OIBCB (see para 5–2).
- h.* In coordination with the Deputy Chief of Staff (DCS), G–4, establish policies and procedures to support maintenance burden data requirements for force documentation as required by the DCS, G–3/5/7.
- i.* Provide colonel (O–6) and/or general schedule (GS)–15 level representation to the Organic Industrial Base Execution Council (OIBEC) (see para 5–4).

*j.* Appoint a Corrosion Control and Prevention Executive to manage the Army Corrosion Prevention and Control (CPC) Program.

*k.* Assist U.S. Army Materiel Command (AMC) in the sustainment (to include SOR, fielding, coordinating disposition, packaging, storage, and disposal) of acquisition program candidate (APC) nonstandard-equipment (NS-E).

*l.* Establish internal procedures and controls to request and/or assign nonstandard line item numbers (LINs) for the NS-E procured to fill unit warfighting or force protection capability shortfalls (either through fielding or made available for unit purchase).

*m.* Establish the overall policy and strategic objectives for the Army Industrial Base Program.

*n.* Coordinate materiel developer requirements for operational readiness float (ORF) and repair cycle float (RCF) with DCS, G-4. Consolidate materiel developer ORF requirements by LIN, command, unit identification code (UIC), and fiscal year (FY) and submit to DCS, G-4 annually.

## **2-2. Assistant Secretary of the Army (Financial Management and Comptroller)**

The ASA (FM&C) will—

*a.* Develop and prescribe financial policy and procedures for the use of appropriated funds and nonappropriated maintenance funds.

*b.* Develop and prescribe financial policy and procedures for the use of depot maintenance funds.

*c.* Monitor the execution of depot maintenance funds.

*d.* Develop, present, and defend the depot maintenance budget.

*e.* Participate in the program development process through membership in the program evaluation group.

*f.* Provide general officer (GO) or SES representation as the chief financial officer to the Army OIBCB (see para 5-2).

*g.* Provide O-6 and/or GS-15 level representation to the OIBEC (see para 5-4).

## **2-3. Assistant Secretary of the Army (Manpower and Reserve Affairs)**

The ASA (M&RA) will provide representation to the Army OIBCB, as required (see para 5-2).

## **2-4. Chief Information Officer/G-6**

The CIO/G-6 will—

*a.* Assist the DCS, G-4 to coordinate plans, and procedures for the maintenance of Army's command, control, communications, and computers and information technology (IT) equipment and systems using the Army Maintenance System.

*b.* Review current Headquarters, Department of the Army (HQDA) communications policy and procedures for RESET support.

## **2-5. Chief, National Guard Bureau**

The CNGB will—

*a.* Provide overall coordination and administration for developing materiel maintenance plans, programs, and budgetary requirements pertaining to the Army National Guard (ARNG).

*b.* Manage the ARNG depot maintenance.

*c.* Develop, program, budget, and defend depot maintenance requirements for ARNG materiel per DFAS-IN Regulation 37-1.

*d.* Coordinate ARNG depot maintenance requirements determination with AMC life cycle management commands (LCMCs) to ensure ARNG depot maintenance is programmed in depot maintenance workload projections.

*e.* Be a party to all memorandums of agreement (MOAs) and/or memorandums of understanding (MOUs) involving depot maintenance of ARNG materiel.

*f.* Develop a depot maintenance requirement determination process for ARNG materiel.

*g.* Provide representation to the Army OIBCB.

*h.* Provide lieutenant colonel (O-5) and/or GS-14 level representation to the OIBEC (see para 5-4).

*i.* Establish an NS-E maintenance and reset point of contact.

*j.* Maintain and repair tactical NS-E procured with unit and/or state funds.

*k.* Conduct maintenance operations in accordance with environmental protection programs and policies.

*l.* Coordinate with the State adjutants general to ensure the following —

(1) Direct and manage below depot field and sustainment maintenance operations applicable to all Federal supplies and equipment issued to ARNG units and activities within the State.

(2) Ensure that commanders provide adequate time so all Soldiers spend 25 percent of their inactive duty training (IDT) performing required operator preventive maintenance checks and services (PMCS) on individual and organizational equipment.

(3) Ensure that commanders provide adequate time for the armorer, nuclear, biological chemical noncommissioned officer (NCO), and mechanics to spend 50 percent of their IDT and annual training (AT) time engaged in maintenance performance or training, including conducting 25 percent of field-level services on unit equipment in their respective functional areas.

(4) Establish a Maintenance Assistance and Instruction Team (MAIT) Program as detailed in chapter 8.

(5) Ensure that commanders at company and higher levels appoint logistics readiness officers.

(6) Evacuate equipment and materiel requiring depot maintenance as directed by the CNGB.

(7) Establish field maintenance facilities to provide support for home station equipment

(8) Designate specific ARNG unit(s) to use and support an approved unit training equipment site (UTES) operation. This will include adjusting operating costs within and between using unit(s) for related maintenance and training.

(9) Designate type and quantity of home station equipment to be located at the UTES.

(10) Establish a Command Evaluation Team Program per NGR 750–52.

*m.* The surface maintenance manager will—

(1) Plan, execute, and direct the Surface Maintenance Human Resources Program.

(2) Plan, develop, and manage in-State maintenance training and determine and coordinate out-of-State maintenance training.

(3) Implement and administer the safety, hazardous waste, and industrial hygiene programs for all surface maintenance facilities.

(4) Serve as the principal State adviser to the facilities management office on surface maintenance facilities construction.

(5) Analyze, coordinate, and manage on-hand equipment readiness for the State.

(6) Provide technical supervision to all surface maintenance activities and exercise operational and administrative control over combined support maintenance shops (CSMSs), maneuver area training equipment sites (MATES), UTES, and field maintenance shops (FMSs).

(7) Serve as the program manager (PM) for surface maintenance funds.

(8) Designate, in writing, an individual to assume temporary duty as acting CSMS, MATES, FMS, or UTES supervisor during temporary absence of the appointed shop supervisor.

(9) Manage the surface maintenance manager office, providing control and direction for all matters relating to office administration.

(10) Ensure compliance with National Maintenance Program (NMP) business procedures when scheduling and executing sustainment maintenance operations.

*n.* The State Army aviation officer is a member of the State adjutant general's staff and will—

(1) Implement and administer the State aviation logistics programs.

(2) Analyze, coordinate, and manage the operational readiness of aviation assets.

(3) Ensure the aviation logistics programs are in accordance with applicable materiel and maintenance regulatory requirements.

*o.* Acquire and maintain a self-sufficient military capability and capacity for field and sustainment maintenance in support of combat, combat support, and combat service support (CSS) elements.

(1) Supervise implementation of aviation logistics programs.

(2) Maintain ARNG aviation assets using Department of the Army (DA) readiness goals (RGs) listed in AR 700–138.

(3) Ensure compliance with safety of flight requirements and aircraft modifications.

*p.* Program funds for field and sustainment maintenance and rank order any unfinanced requirements.

(1) Administer the ARNG Aviation Maintenance Program.

(2) Supervise ARNG maintenance and materiel technical personnel.

(3) Ensure logistics regulatory requirements are implemented and followed through the complete aviation cycle.

(4) Maintain ARNG aviation assets in the highest state of readiness.

(5) Report compliance with safety of flight requirements and aircraft modifications.

(6) Report deficiencies in quality, materiel, or maintenance per DA Pam 738–751.

*q.* Ensure that maintenance is performed at the lowest level possible according to maintenance allocation charts (MACs). This process must preclude table of distribution and allowances (TDA) maintenance activities from absorbing maintenance workloads that should be performed at modification table of organization and equipment (MTOE) field maintenance units.

- (1) Train personnel designated as operators and crewmembers to properly operate and perform PMCS on their assigned equipment.
- (2) Assign maintenance responsibilities for unit equipment to specific individuals.
- (3) Schedule maintenance time and give equal emphasis to preventive maintenance training.
- (4) Require compliance with prescribed preventive maintenance procedures.
- (5) Require that all equipment be maintained to the maintenance standard outlined in paragraph 3–2.
- (6) Require that all before, during, and after operations checks be accomplished each time the equipment is operated or used.
- (7) Submit DA Form 2407 (Maintenance Request), DA Form 5988–E (Equipment Maintenance and Inspection Worksheet (EGA)), to the supporting maintenance facility for backup maintenance support beyond the unit’s capability.
- (8) Maintain records applicable to hand receipt, operation, maintenance, modification materiel readiness reports, and transfer of equipment as prescribed in appropriate publications.
- (9) Develop and provide requests for replacement of basic issue items (BIIs), component of end items (COEIs), initial troop installed and authorized items, and repair parts for equipment under their control.

## **2–6. Deputy Chief of Staff, G–1**

The DCS, G–1 will—

- a.* Develop plans, policies, and programs for the management of military and civilian maintenance personnel.
- b.* Publish assignment instructions and/or request for orders no less than 30 days prior to return. Ensure the U.S. Army Installation Management Command (IMCOM) has visibility of Soldier assignment instruction and/or request for orders no less than 30 days prior to return to facilitate necessary installation support.

## **2–7. Deputy Chief of Staff, G–2**

The DCS, G–2 will develop policies and procedures related to materiel maintenance of intelligence-unique materiel.

## **2–8. Deputy Chief of Staff, G–3/5/7**

The DCS, G–3/5/7 will—

- a.* Approve the Army force structure requirements and authorizations for maintenance support.
- b.* Approve requirements and priorities for all equipment identified in basis of issue plans (BOIPs) (see AR 71–32).
- c.* Direct the coordination and use of operational test (OT) results in the development of force structure training and materiel requirements and authorizations.
- d.* Develop DA policy and guidance on maintenance training.
- e.* Participate in maintenance requirement reviews to ensure appropriate funding priority of weapon systems is maintained.
- f.* Provide and regularly update the management decision package (MDEP)/modernization resource information submission crosswalk for intensively managed weapon systems.
- g.* Provide representation to the Army OIBCB.
- h.* Ensure that peacetime maintenance man-hour shortfalls are identified and documented by the Army commands (ACOMs), Army service component commands (ASCCs), and/or direct reporting units (DRUs) during the planning, programming, budgeting, and execution (PPBE) process.
- i.* Approve ORF and RCF authorizations and include in the Army acquisition objective computation.
- j.* Maintain the capabilities development for rapid transition (CDRT) tactical NS–E list at Army Knowledge Online website <https://www.us.army.mil/suite/files/20472232>. To access the CDRT website access Army Knowledge Online secure internet protocol router network. Type “CDRT” in the Army Knowledge Online search box and press the search button. Click on the “CDRT” file listed on the search results to access the CDRT listing.

## **2–9. Deputy Chief of Staff, G–4**

The DCS, G–4 is responsible for developing policies and implementing procedures for Army maintenance operations and will—

- a.* Perform general staff supervision of maintenance activities, including Regular Army and Reserve Components (RCs).
- b.* Serve as the proponent for the Department of Defense (DOD) inter-Service, interdepartmental, and interagency maintenance support programs within the Army.
- c.* Validate maintenance requirements for the program objective memorandum (POM).
- d.* Ensure the materiel readiness and sustainability of the Army.

- e.* Formulate concepts, policies, plans, and program guidance for the following materiel maintenance programs:
  - (1) Maintenance expenditure limits (MELs) (see para 4–6).
  - (2) Maintenance award programs (see para 8–1).
  - (3) Special repair authority (SRA) (see para 3–13).
  - (4) Sample data collection (SDC) (see para 8–4).
  - (5) Maintenance regeneration enablers (see para 8–7).
  - (6) NMP (see para 8–14).
  - (7) MAIT Program (see para 8–15).
  - (8) Hardness maintenance (HM) and/or hardness surveillance (HS) (see para 8–23).
- f.* Serve as the proponent for the functional requirements for maintenance management of Global Combat Support System–Army (GCSS–Army), logistic information systems (LIS) or other maintenance Automated Information Systems used to support Army maintenance programs.
- g.* Provide final approval for funding of inter-Service support agreements (ISSAs) that exceed programmed support (see para 4–30).
- h.* Represent the DA Tire Retread Program in matters involving policy and planning that also concern DOD or the Departments of the Navy and Air Force.
- i.* Develop basic functional guidance for the automated submission of depot maintenance requirements.
- j.* Direct and allocate funds to support all sustainment maintenance programs, including maintenance engineering, maintenance support services, and depot maintenance.
- k.* Establish sustainment maintenance requirements review boards consisting of representative members from the DCS, G–3/5/7; ASA (FM&C), Army Budget Office; Director, Program Analysis and Evaluation; Headquarters, AMC and AMC LCMCs; and the U.S. Army Sustainment Command (ASC).
- l.* Sponsor Headquarters, AMC reviews (at least annually) for the purpose of validating and prioritizing maintenance requirements.
- m.* Manage, validate, and monitor execution of the Depot Maintenance Requirements Plan (OP–29).
- n.* Direct the Army Materiel Maintenance Management Career Program.
- o.* Exercise staff supervision for centralized program management of the Army Sets, Kits, Outfits, and Tools (SKOT) Program. The outline guidance and procedures for acquisition, maintenance, and disposition of SKOT are contained in DA Pamphlet (Pam) 700–60.
- p.* Serve as proponent for the Army Modification Program per AR 750–10.
- q.* Establish and maintain a long-term Army Organic Industrial Base Strategic Plan for the Army OIBCB approval.
- r.* Co-chair the Army OIBCB (see para 5–2).
- s.* Provide O–6 and/or GS–15 level representation to the OIBEC (see para 5–4).
- t.* Sponsor and provide staff support to the Army Maintenance Board.
- u.* Serve as the proponent for the Army Oil Analysis Program (AOAP) and approve Army input to the DOD Joint Oil Analysis Program.
- v.* Validate ACOM, ASCC, and DRU ORF requirements annually.
- w.* Coordinate with the ASA (ALT), DCS, G–3/5/7, and DCS, G–8 the validation of ORF requirements and requests to redistribute or divest excess.
- x.* Plan and program resources to support the DCS, G–3/5/7 maintenance burden data requirements and associated logistical data elements needed to determine maintenance force structure requirements.
- y.* Provide maintenance policy oversight of the execution of reset.
- z.* Provide maintenance policy oversight of the left behind equipment (LBE) storage.
- aa.* Provide maintenance policy oversight of predeployment training equipment (PDTE).
- bb.* Provide maintenance policy oversight of home station training (HST) equipment.
- cc.* Approve source repair analysis and core logistics analysis.
- dd.* Maintain an accounting of the maintenance contractor logistics support (CLS) engaged by the Army and the manpower and equipment resources required to replace it, if discontinued or exempted.
- ee.* Approve weapon system and component enrollment in the AOAP through coordination with LCMCs, program executive officers (PEOs), and/or PMs, as well as the ACOMs, ASCCs, and DRUs.
- ff.* Serve as the Army Staff (ARSTAF) proponent for NS–E maintenance.
- gg.* Provide oversight for maintenance of the Material Enterprise Nonstandard Equipment Database.
- hh.* Monitor the repair and reset of tactical NS–E.
- ii.* In coordination with ASA (ALT), coordinate the development of APC sustainment strategies and sustainment strategies for NS–E identified for long term storage.

## **2-10. Deputy Chief of Staff, G-8**

The DCS, G-8 will—

- a.* Participate in annual maintenance requirement reviews to ensure OP-29 maintenance funding and prioritization in compliance with programming goals and objectives.
- b.* Provide GO-level and/or SES-level representation to the Army OIBCB (see para 5-2).
- c.* Provide O-6 and/or GS-15 level representation to the OIBEC (see para 5-4).
- d.* Coordinate with the DCS, G-4 to redistribute or divest excess ORF.
- e.* Capture, at the LIN and national stock number (NSN) level, DCS, G-3 approved ORF and RCF authorizations in Army Equipping Enterprise System (AE2S) (<https://afm.us.army.mil>).

## **2-11. Chief, U.S. Army Reserve**

The Chief, USAR will—

- a.* Develop materiel maintenance plans, policies, programs, and budgetary requirements pertaining to the USAR.
- b.* Manage the USAR Depot Maintenance Program.
- c.* Develop, program, budget, and defend depot maintenance requirements for USAR materiel.
- d.* Coordinate USAR depot maintenance requirements determination with AMC LCMCs to ensure USAR depot maintenance is programmed in depot-maintenance workload projections.
- e.* Coordinate all MOUs and/or MOAs involving depot maintenance of USAR materiel. Coordinate all MOUs and/or MOAs involving depot maintenance of USAR materiel.
- f.* Develop a depot maintenance requirement determination process for USAR materiel consistent with policy and guidance in this regulation.
- g.* Provide representation to the Army OIBCB and Army Maintenance Board.
- h.* Provide O-5 and/or GS-14 level representation to the OIBEC (see para 5-4).
- i.* Provide administrative, logistical, and technical assistance to Army Reserve units outside the continental United States (OCONUS) in support of Army materiel maintenance programs.
- j.* Ensure that maintenance supports readiness. Commanders at all levels will be held accountable for the conduct of maintenance operations.
- k.* Ensure evaluation of maintenance is included in the Command Inspection Program.
- l.* Ensure that maintenance operations at all levels within their command are properly supervised.
- m.* Establish and supervise training programs for equipment operators and/or crews and maintenance personnel in the conduct of maintenance operations.
- n.* Provide timely and accurate cost, readiness, and maintenance data to management systems.
- o.* Acquire and maintain a self-sufficient military capability and capacity for field and sustainment maintenance in support of combat, combat support, and CSS elements.
- p.* Program funds for field and sustainment maintenance and rank order any unfinanced requirements.
- q.* Ensure that maintenance is performed at the lowest level possible according to MACs. This process must preclude TDA maintenance activities from absorbing maintenance workloads that should be performed at MTOE field maintenance units.
- r.* Minimize the number of TDA maintenance operations to reduce resource requirements without adversely impacting operational and contingency requirements. Ensure that there is only one IMMA on an installation. Installation commanders with the approval of AMC and IMCOM may consolidate Logistics Readiness Center (LRC) and Director of Public Works maintenance operations when cost effective.
- s.* Evaluate all available methods of providing maintenance support before forwarding requests to the DCS, G-4 (Maintenance Directorate) for the establishment of IMMAs.
- t.* Comply with materiel maintenance standards found in applicable technical publications and maintenance-related logistical performance and readiness standards found in this regulation and related publications.
- u.* Coordinate all requirements for USAR TMDE procurement with PM TMDE per AR 750-43.
- v.* Establish a warranty control office and/or officer to implement the Army Warranty Program per AR 700-139.
- w.* Comply with all local, regional, and national regulations governing the inspection and maintenance requirements for prevention of pollution from mobile equipment per AR 200-1.
- x.* Establish effective CPC program for assigned equipment per AR 750-59.
- y.* Carry out quality programs under the provisions of AR 70-1 for assigned maintenance and calibration operations.
- z.* Designate point of contacts for the SRA, SDC, modification work order (MWO), AOAP, unique item tracking (UIT), and maintenance float programs.
- aa.* Assist SDC-responsible official and AMC LCMCs as required in establishing and conducting SDC projects that are implemented in the ACOM, ASCC, and DRU.



- bb.* Ensure that subordinate commanders with sustainment maintenance missions comply with NMP business procedures when scheduling and executing sustainment maintenance operations.
- cc.* Plan for and provide maintenance and repair parts in support of contingency or emergency plans, as directed
- dd.* Conduct maintenance operations in accordance with environmental protection programs and policies.

## **2-12. The Surgeon General**

TSG will—

- a.* Develop concepts, policy, doctrine, and plans for maintenance of medical materiel.
- b.* Develop medical force structures, organizations, and capabilities to provide required maintenance services for medical materiel.
- c.* Develop, manage, and monitor medical materiel and maintenance programs for the Army.

## **2-13. Deputy Chief of Staff, G-9**

The DCS, G-9 will—

- a.* Develop policies, plans, programs, and budgetary requirements for providing maintenance support services for equipment to installation base operations (BASOPS) activities on a nonreimbursable basis and to other organizations on a reimbursable area support basis.
- b.* Assist ACOMs, ASCCs, and DRUs, MATDEVs, and other commands and agencies in identifying requirements for maintenance facilities and, when approved in accordance with AR 420-1, their design and construction.
- c.* Provide GO or SES representation to the Army OIBCB (see para 5-2).
- d.* Provide O-6 and/or GS-15 level representation to the OIBEC (see para 5-4).

## **2-14. Commanders at all levels**

Commanders at all levels will—

- a.* Emphasize the importance of safety and maintenance and ensure that subordinates are held accountable for the conduct of maintenance operations. Maintenance is a command responsibility.
- b.* Provide leadership, technical supervision, and management control of materiel maintenance programs of subordinate commands and activities.
- c.* Emphasize the conduct and supervision of PMCS performed at unit level. Materiel will be maintained at the maintenance standard specified in paragraph 3-2.
- d.* Develop and sustain a high degree of maintenance discipline within their commands, including management of repair parts per AR 710-2.
- e.* Establish, maintain, and conduct training of operators, crews, and maintenance personnel to properly use and maintain equipment.
- f.* Establish, maintain, and conduct training of leaders at all levels to properly supervise maintenance operations and to motivate subordinates to use and maintain equipment properly and safely.
- g.* Exercise management controls sufficient to ensure prudent and efficient use of all resources (people, money, materiel, and time) required to perform assigned maintenance missions.
- h.* Conduct inspections and staff visits to determine the adequacy of command maintenance operations. Document all faults to ensure that corrective actions are taken and to ensure the accuracy of readiness reports.
- i.* Provide materiel maintenance support to all assigned units and activities.
- j.* Recommend improvements to the Army Maintenance System.
- k.* Comply with the provisions of AR 750-43 for TMDE used in support of maintenance operations.
- l.* Ensure that the submissions of quality deficiency reports (QDRs) and equipment improvement recommendations (EIRs) are accomplished per DA Pam 750-8 (ground support and watercraft) or DA Pam 738-751 (aircraft and/or aviation equipment).
- m.* Encourage establishment of an aggressive awards program for operators and maintainers.
- n.* Implement an effective quality program per AR 70-1. Quality programs will be defined, quantified, specified, measured, and assessed.
- o.* Ensure that all PMCS, including field-level services, are scheduled and performed as required by the appropriate technical manual (TM).
- p.* Ensure prompt compliance with requirements dictated by safety of use messages (SOUMs) in accordance with AR 750-6 and AR 95-1.

- q.* Ensure that sufficient numbers of personnel are trained in various battle damage assessment and repair (BDAR) skills so that combat resilience requirements can be met in wartime operations.
- r.* Support the SDC Program, when implemented, by providing proponent agency contractor personnel reasonable access to equipment and data relevant to the SDC project.
- s.* Emphasize the prompt movement of unserviceable reparables to maintenance.
- t.* Appoint logistics readiness officers.
- u.* Support the NMP.
- v.* Ensure modifications to assigned equipment are done in compliance with AR 750–10.

## **2–15. Commanders, Army command, Army service component command, direct reporting unit**

Commanders, ACOM, ASCC, and DRU will—

- a.* Ensure that maintenance supports readiness. Commanders at all levels will be held accountable for the conduct of maintenance operations.
- b.* Ensure evaluation of maintenance is included in the Command Inspection Program.
- c.* Ensure that subordinate commanders comply with the policies in this regulation. One copy of any implementing instructions will be sent to DCS, G–4 (DALO–SMM), 500 Army Pentagon, Washington, DC 20310–0500.
- d.* Ensure that maintenance operations at all levels within their command are properly supervised.
- e.* Establish and supervise training programs for equipment operators, crews, and/or maintenance personnel in the conduct of maintenance operations.
- f.* Provide timely and accurate cost, readiness, and maintenance data to management systems.
- g.* Acquire and maintain a self-sufficient capability and capacity for unit and maintenance provider support of combat, combat support, and CSS elements.
- h.* Program funds for support of equipment and rank any unfinanced requirements.
- i.* Ensure that field-level maintenance is performed at the unit level or evacuated to the next level (sustainment) for supply disposition if the initial inspection identifies that cost of repair exceeds MEL. This process must preclude TDA maintenance activities in the LRC from absorbing maintenance workload that should be performed at MTOE organizations.
- j.* Comply with materiel maintenance standards and maintenance-related logistical performance and readiness standards.
- k.* Coordinate all requirements for TMDE procurement with the PM TMDE per AR 750–43.
- l.* Establish a warranty control office and/or officer to implement the Army Warranty Program per AR 700–139.
- m.* Comply with all local, regional, and national regulations governing the inspection and maintenance requirements for prevention of pollution from mobile equipment (see AR 200–1 for guidance).
- n.* Provide air traffic control materiel support.
- o.* Establish CPC program for assigned equipment per AR 750–59.
- p.* Determine if reimbursement for fabrication services of field or sustainment maintenance activities is authorized.
- q.* Carry out quality programs under the provisions of AR 70–1 for assigned maintenance and calibration operations.
- r.* Designate points of contact for the SRA, SDC, MWO, AOAP, UIT, and maintenance float programs.
- s.* Appoint in writing as an additional duty an ORF coordinator for the ACOM, ASCC, or DRU responsible for reviewing subordinate command approved transactions, ORF maintenance readiness reports, submitting annual demand data to AMC, and requesting ORF authorization changes.
- t.* Ensure ORF managers are appointed in writing as an additional duty at the unit where ORF assets are authorized. ORF managers monitor ORF maintenance readiness, utilization rates, and transaction times as defined in appendix B. ORF managers also ensure maintenance readiness is reported monthly, and provide the ORF coordinator annual demand data and requests for ORF authorization changes.
- u.* Assist responsible official and AMC LCMCs as required in establishing and conducting SDC projects that are implemented in the ACOM, ASCC, and DRU.
- v.* Ensure subordinate commanders with sustainment maintenance missions comply with NMP business procedures when scheduling and executing sustainment maintenance operations.
- w.* Ensure that all assigned personnel, including those assigned supply and maintenance automated systems data entry responsibilities, receive formal technical training appropriate for their duty assignments.
- x.* Ensure that assigned maintenance and supply personnel are used in the MTOE and/or modification table of distribution and allowance (MTDA) positions for which they have been requisitioned and trained, including those positions identified with additional skill identifiers (ASIs).
- y.* Responsible for preparing and submitting the Depot Maintenance Workload Distribution (DMWD) requirements report for prior, current, and budget years.

- z. Ensure MWO application teams are provided reasonable access to unit MWO coordinators, equipment, and facilities, per AR 750–10 and ensure MWO application teams are provided reasonable access to unit MWO coordinators, equipment, and facilities.
- aa. Ensure MWO application teams are scheduled on the unit’s training calendar.
- bb. Implement item unique identification (IUID) for IMCOM managed items.
- cc. Forecast and request NS–E required for training prior to deployment, via operational needs statement, to the HQDA Army Requirements and Resourcing Board.
- dd. Establish a NS–E maintenance and reset point of contact.
- ee. Fund AMC for maintenance to be executed on all NS–E LBE managed by AMC other than that in the APC category described above.
- ff. Coordinate with AMC for contract maintenance support, as required.
- gg. Conduct maintenance operations in accordance with environmental protection programs and policies.

## **2–16. Commanding General, U.S. Army Forces Command**

The CG, FORSCOM, in support of the USAR, will—

- a. Conduct a continuing analysis and evaluation of the USAR Materiel Maintenance Program to ensure that the objectives of the program are attained by all subordinate commands.
- b. Authorize resources to those TDA maintenance activities established by the U.S. Army Reserve Command (USARC) in the continental United States (CONUS) to support the USAR Materiel Maintenance Program. AR 570–4 will be used as a guide for determining manpower requirements of maintenance activities.
- c. Maintain Army BASOPS communications-electronics (CE) equipment; other assigned automation, communication, printing, audiovisual and records management equipment; and the Army portion of the Defense Communication System.
- d. Maintain information systems at U.S. Army Intelligence and Security Command (INSCOM) sites.

## **2–17. Commanding General, U.S. Army Training and Doctrine Command**

The CG, TRADOC will—

- a. Develop Army maintenance concepts and doctrine for two level maintenance.
- b. Determine automated systems for support the Army Maintenance System.
- c. Evaluate fielded systems to update maintenance training for field and sustainment maintenance operations.
- d. Ensure that newly identified maintenance tasks.
- e. Ensure that training materials are developed to provide the training required supporting maintenance military occupational specialties (MOSSs).
- f. Ensure BDAR techniques are included in all resident maintenance training courses and doctrinal literature.
- g. Ensure operator-level and leader-level PMCS instruction is included in all resident training courses.
- h. Develop and incorporate AOAP training for appropriate programs of instruction (see para 8–2).
- i. Develop and update concepts and doctrine for employing depot-level repair (DLR) organizations in a theater of operations.
- j. Represent SKOT users for all matters associated with the review and update of SKOT and corresponding supply catalogs.
- k. Ensure CPC is integrated in all resident maintenance training courses and doctrinal literature.
- l. Support the SDC Program, when implemented, by providing proponent agency contractor personnel reasonable access to equipment and data relevant to the SDC project.
- m. Develop operational requirements and concepts of operations leading to a strategy for modifying existing and future tactical logistics IT systems to accommodate item unique identification (IUID) implementation.
- n. Identify hardware requirements needed to enable IUID in support of tactical logistics operations.
- o. Include IUID in all Joint Capabilities and Integration Development System documents.

## **2–18. Commanding General, U.S. Army Materiel Command**

The CG, AMC, as the national maintenance manager (NMM) for the Army, will—

- a. Develop Army depot-level maintenance concepts and support systems, with participation by the DCS, G–4 (Maintenance Directorate), capability developers (CAPDEVs), and MATDEVs.
- b. Manage the depot maintenance system, including forward repair activities (FRAs).
- c. Establish, operate, and manage the Logistics Assistance Program per AR 700–4.
- d. Ensure that spares and repair parts are available in sufficient quantities to support materiel throughout its life cycle.

- e. Support DCS, G-4 requirements for logistical data elements necessary to meet DCS, G-3/5/7 maintenance force structure requirements determination.
- f. Responsible for program operations and execution of equipment reset operations.
- g. Responsible for management of program operations and execution for the AOAP, to include:
  - (1) Designating the AMC Logistics Support Activity (LOGSA) as the DA PM for the AOAP.
  - (2) Designating Commander, AMC LOGSA responsibility to appoint the PM AOAP.
  - (3) Implementing this regulation and AR 700-132.
  - (4) Incorporating quality assurance provisions and technician qualification required by the AOAP performance work statements (PWSs) in the statement of work used in solicitation documents for contract operation of AOAP laboratories. Contracting officers reviewing vendor proposals for AOAP laboratory operation will obtain PM AOAP technical review and approval prior to acceptance of the proposal.
  - (5) Ensuring that AMC LCMCs—
    - (a) Recommend systems for inclusion in the AOAP and sampling intervals for these systems. The PEO and/or PM for the specific weapon systems will approve and submit the recommendations to the PM AOAP. Recommendations may be submitted at any time during the year. At the beginning of each calendar year, the PM AOAP will facilitate a formal review process.
    - (b) Configure systems to use oil-sampling valves or coordinate with PEOs and/or PMs for retrofit during depot-scheduled timeframes, where feasible.
    - (c) Coordinate with PEOs and/or PMs to ensure embedding of inline and/or online diagnostics capabilities in future systems as technology allows.
  - (6) Providing information to AMC LCMCs and MATDEVs on changes to laboratory capabilities and component metal wear criteria.
  - (7) Establishing AOAP certification criteria for both contract and organic laboratories, as described in AR 700-132 and Technical Manual (TM) 38-301-1.
  - (8) Conducting unannounced annual quality assurance laboratory assistance and assessment review visits to review laboratory operations, performance, and validate AOAP laboratory certification compliance.
  - (9) Serving as the functional manager for the Joint Oil Analysis Standard Inter-Service System Data System, as prescribed in AR 70-1. The PM AOAP serves as the Army point of contact with the Navy for inter-Service standardization of Oil Analysis Standard Inter-Service System laboratory software.
  - (10) Approving equipment oil sampling intervals through coordination with LCMCs, PEOs and/or PMs, and the ACOMs, ASCCs, and DRUs.
  - (11) Ensuring procedures prescribed in TM 38-301-1 regarding certification of test instruments, laboratories, and personnel are consistent with requirements for AOAP laboratories.
  - (12) Planning, programming, budgeting, procuring, and deploying mobile AOAP laboratories in support of operations for the Regular Army.
  - (13) Serving as technical advisor for the development, fabrication, and operation of AOAP mobile laboratory facilities.
  - (14) In coordination with appropriate ACOMs, ASCCs, and DRUs, designating AOAP laboratory regional support areas and facilitate laboratory establishment and closures.
  - (15) Serving as the technical advisor for reviewing, recommending, and planning the establishment or closure of AOAP laboratories.
  - (16) Serving as technical advisor and facilitator for noncontract AOAP laboratory personnel training and for contractors, at the contractor's expense.
  - (17) Hosting an annual in-process review with the DCS, G-4, ACOMs, ASCCs, and DRUs, AMC LCMCs, PEOs, and/or PMs to review program operations, requirements, and coordinating program out-year planning objectives. This includes a review of systems and/or components enrolled, sampling intervals, and wear-metal criteria.
  - (18) Developing and publishing, not later than 45 days following the end of the FY, an annual executive summary outlining program operations, benefits, and costs.
  - (19) Serving as proponent for Technical Bulletin (TB) 43-0211 and as Army coordinating authority for AOAP procedures and material contained in all Army and Joint Service regulations, TBs, pamphlets, and field manuals (FMs).
- h. Manage test, measurement, and diagnostic equipment (TMDE) functions as the Army lead organization. Manage and execute all responsibilities for worldwide calibration and repair of general and selected special purpose TMDE (see AR 750-43).
  - i. Manage the Army Warranty Program (see AR 700-139).
  - j. Manage the Army Chemical Agent Resistant Coating (CARC) and/or Camouflage Painting Pattern (CPP) Programs.
  - k. Manage and staff requirements for the MAC.
  - l. Manage and oversee the SRA Program.

- m.* Program and budget DA-approved SDC projects.
- n.* Manage the Depot Repair and Return Program (see para 5–9).
- o.* As the Army lead organization for the National Tire Retread Program, establish a worldwide program for management of aircraft and vehicle tires.
- p.* Provide life cycle maintenance engineering support for materiel acquired by the DA.
- q.* Develop and provide depot maintenance OP–29 to the DCS, G–4.
- r.* Conduct maintenance requirements reviews with LCMCs.
- s.* Perform initial provisioning in accordance with AR 700–18.
- t.* Manage the DOD inter-Service, interdepartmental, and interagency maintenance support programs within the Army.
- u.* Provide maintenance support to field-level units, as necessary.
- v.* Evaluate and resolve technical and maintenance problems reported by using units through deficiency reports.
- w.* Manage and execute the NMP.
- x.* Manage and update SKOT. The outline guidance and procedures for acquisition, maintenance, and disposition of SKOT are contained in DA Pam 700–60.
- y.* Establish theater foundation Army field support brigade (AFSB) or logistics task force for coordination of AMC maintenance support provided to the theater.
- z.* Ensure LCMCs and the depots comply with Section 2464, Title 10, United States Code (10 USC 2464) and current core policy.
  - aa.* Provide two GO or senior executive senior members to the Army OIBCB to serve as the chief operating officer and one additional board member.
  - bb.* Establish theater foundation logistics support element (LSE) for coordination of AMC maintenance support provided to the theater.
  - cc.* Chair the OIBEC (see chap 5). Review recommendations for additions and/or deletions to maintenance float and develop and submit the proposed ORF support list with float factors to HQDA for approval (report control symbol (RCS) exempt: AR 335–15).
  - dd.* Maintain overall responsibility for consolidating and submitting the DMWD requirements report.
  - ee.* Ensure that depot subject matter experts are assigned to support MATDEVs in development of depot support analysis and strategies.
  - ff.* Submit depot maintenance funding requirements in accordance with OP–29 Resource Formulation Guidance.
  - gg.* In coordination with Headquarters, U.S. Army Forces Command (FORSCOM), maintain LBE and HST.
  - hh.* Serve as the Army lead for the Modification Work Order (MWO) Program in accordance with AR 750–10.
  - ii.* Manage and maintain Army pre-positioned stocks (APS).
  - jj.* Provide BASOPS and tactical sustainment maintenance and related functions of installation materiel maintenance activity (IMMA) operations; corrosion prevention control; condition classification of materiel; installation MWO and warranty programs; TMDE calibration and repair support; and NMPs at the installation and/or garrison directorates of logistics.
  - kk.* Manage program operations and execution for LBE sustainment.
  - ll.* Manage program operations and execution for HST sustainment.
  - mm.* Oversee installation LRCs and the performance of the LRC Maintenance Division in its role as a provider of sustainment and backup field maintenance support to LBE, reset, HST, NMP, and other equipment and components.
  - nn.* Oversee installation LRCs and the performance of the LRC Maintenance Division in its role as a provider of sustainment and backup field maintenance support to LBE, reset, HST, NMP, and other equipment and components.
    - (1) Ensure that maintenance operations at all levels within their command are properly supervised.
    - (2) Provide timely and accurate cost, readiness, and maintenance data to management systems.
    - (3) Acquire and maintain a self-sufficient capability and capacity for field and selected sustainment maintenance provider support of combat, combat support, and CSS elements.
    - (4) Program funds for support of equipment and rank any unfinanced requirements.
    - (5) Comply with materiel maintenance standards and maintenance related logistical performance and readiness standards.
    - (6) Coordinate all requirements for TMDE procurement with the PM TMDE per AR 750–43.
    - (7) Establish a warranty control office and/or officer to implement the Army Warranty Program per AR 700–139.
    - (8) Comply with all local, regional, and national regulations governing the inspection and maintenance requirements for prevention of pollution from mobile equipment (see AR 200–1 for additional guidance.)
    - (9) Provide air traffic control materiel support.
    - (10) Establish effective CPC program for assigned equipment per AR 750–59.
    - (11) Determine if reimbursement for fabrication services of field or sustainment maintenance activities is authorized.
    - (12) Carry out quality programs under the provisions of AR 70–1 for assigned maintenance and calibration operations.

- (13) Designate point of contacts for the SRA, SDC, MWO, AOAP, UIT, and maintenance float programs.
- (14) Ensure that the LRC provides maintenance support to the USAR when required, as established by AR 5–9.
- (15) Ensure that all assigned personnel, including those assigned supply and maintenance automated systems data entry responsibilities, receive formal technical training appropriate for their duty assignments.
- (16) Ensure that assigned maintenance and supply personnel are used in the MTDA positions for which they have been requisitioned and trained, including those positions identified with ASIs.
- (17) Provide field maintenance as required for USAR units and maintenance activities located in the installation support area; in-house and contractor maintenance will be provided as stipulated in AR 5–9 and within this regulation.
- (18) Provide logistical support to ARNG and USAR units during AT, as required.
- (19) Maintain an effective liaison program to the supported USAR maintenance activities, including ground, air, watercraft, rail, and water and petroleum within the logistical area of responsibility.
- (20) Provide for backup equipment recovery support from commercial sources through the efforts of the supporting installation. Costs will be provided through Operation and Maintenance, Army (OMA) Reserve Program elements.
- (21) Ensure compliance with NMP business procedures when scheduling and executing sustainment maintenance operations.
- (22) Appoint a float coordinator.
  - oo.* Ensure equipment destined for geographic regions where temperatures from -25 Fahrenheit to -50 Fahrenheit are likely is winterized to operate in that environment.
  - pp.* Ensure compliance with primary integrated logistics support (ILS) policies and procedures and provide matrix support to the assigned PM.
  - qq.* Ensure coordination of Army logistics management information (LMI), Logistics Product Data Program standards, policies, and power logistics software.
  - rr.* Develop industrial base and/or depot requirements, registry process control, and management of the non-recurring engineering technical data.
  - ss.* Ensure organic depots, arsenals, and NMPs employ IUID in their industrial and distribution processes.
  - tt.* Ensure that management structures and database facilities fully support the safety surveillance requirements of critical safety item (CSI).
  - uu.* Manage the Logistics Civil Augmentation Program and maintain its support contract. The contract is written for peacetime planning and contingency operations.
  - vv.* Develops and provides the Army standard level of repair analysis (LORA) model, the Computerized Optimization Model for Predicting and Analyzing Support Structures.
  - ww.* In coordination with ASA (ALT), serve as the Army lead to repair and reset NS–E, including arranging for commercial maintenance contract support. Assume responsibility for all sustainment funding (capture all costs associated with maintaining NS–E in serviceable condition) for NS–E held in storage.
  - xx.* Provide ACOMs, ASCCs, and/or DRUs access to the Material Enterprise Non-Standard Equipment Database for the purpose of viewing NS–E general maintenance guidance and other relevant NS–E information. Manage and update the Material Enterprise Non-Standard Equipment Database in coordination with the DCS, G–4.
  - yy.* Publish procedures that provide users with specific guidance regarding the repair/reset of tactical NS–E at posts, camps, stations, and forward stationed locations.
  - zz.* Coordinate with rapid equipping force, Joint Improvised Explosive Defeat Device Office, Robotic Systems Joint Project Office, Army Asymmetric Warfare Group, ASA (ALT), and original equipment manufacturers to develop and implement maintenance and sustainment plans, as applicable.
  - aaa.* Receive, store, and account for NS–E LBE as required to support deployed unit requirements. Maintenance and/or repair of NS–E in other than the APC category will not be performed by AMC unless the unit reimburses AMC.
  - bbb.* Maintain tactical NS–E approved by the Army Requirements and Resourcing Board as part of PDTE.
  - ccc.* Establish turn-in procedures for NS–E stored at the depot and dispose of unserviceable NS–E through the local Defense Logistics Agency (DLA) Disposition Services.
  - ddd.* Submit budget request to the DCS, G–4 (DALO–RIR) for tactical NS–E sustainment, reset, and storage costs, including care of supplies in storage.
  - eee.* Develop a sustainment maintenance and reset plan, in coordination with the provider/procuring activity (for example, rapid equipping force and Army Asymmetric Warfare Group), for NS–E IN, whether in storage or used for training.
  - fff.* Provide long term storage for tactical NS–E as approved by HQDA.
  - ggg.* Conduct maintenance operations in accordance with environmental protection programs and policies.

## **2–19. Commanding General, U.S. Army Installation Management Command**

The CG, IMCOM will—

- a.* Ensure that there is only one IMMA on an installation. Installation commanders may consolidate LRC and Director of Engineering and Housing (or Director of Public Works) maintenance operations when cost effective.
- b.* Minimize the number of TDA maintenance operations to reduce resource requirements without adversely impacting operational and contingency requirements.
- c.* Evaluate all available methods of support before requesting expansion of existing maintenance provider capabilities beyond current structure. Workload cross-leveling inherent in the U.S. Army Installation Management Agency structure, MOUs or MOAs with other ACOMs, ISSAs, or contracts will be considered.
- d.* Provide timely and accurate cost, readiness, and maintenance data to management systems.
- e.* Ensure funds for support of equipment and rank any unfinanced requirements.
- f.* Evaluate all available methods of support before forwarding requests from subordinate commanders for establishment of IMMAs and satellite materiel maintenance activities.
- g.* Comply with materiel maintenance standards and maintenance related logistical performance and readiness standards.
- h.* Coordinate all requirements for TMDE procurement with the PM TMDE per AR 750–43.
- i.* Establish a warranty control office and/or officer to implement the Army Warranty Program per AR 700–139.
- j.* Comply with all local, regional, and national regulations governing the inspection and maintenance requirements for prevention of pollution from mobile equipment. (See AR 200–1 for additional guidance.)
- k.* Evaluate all available methods of support before forwarding requests from subordinate commanders for establishment of IMMAs and satellite materiel maintenance activities. Examples of support methods are IMMA MOUs or MOAs, ISSAs, or contracts. Submit requests to establish and discontinue IMMAs and equipment maintenance missions to DCS, G–4 (DALO–SMM), 500 Army Pentagon, Washington, DC 20310–0500.
- l.* Carry out quality programs for assigned maintenance and calibration operations per this regulation.
- m.* Assist responsible official and AMC LCMCs, as required in establishing and conducting SDC projects that are implemented in the ACOM, ASCC, and DRU.
- n.* Ensure that all assigned personnel, including those assigned supply and maintenance automated systems data entry responsibilities, receive formal technical training appropriate for their duty assignments.
- o.* Ensure that assigned maintenance and supply personnel are used in the MTDA positions for which they have been requisitioned and trained, including those positions identified with ASIs.
- p.* Execute the MWO Program per AR 750–10.
  - (1) Designate an organization or individual as the regional IMCOM MWO coordinator.
  - (2) Ensure each installation, post, camp and station appoint an installation MWO coordinator and a coordinator for subordinate command units (brigade and/or division) and tenant units.
  - (3) Coordinate MWO fielding teams with the appropriate LCMC and subordinate units for MWO application.
  - (4) Ensure accurate and timely recording of applied MWO data into the Modification Management Information System (MMIS), regardless of who applies the MWO and where it is applied.
- q.* Ensure each installation and/or organization owning enrolled equipment appoints an AOAP monitor who will ensure that subordinate units will—
  - (1) Implement AOAP procedures within the command.
  - (2) Ensure AOAP monitors are trained through the PM AOAP approved training program.
  - (3) Ensure AOAP enrolled equipment and component oil samples are submitted to the regional oil analysis laboratory.
  - (4) Ensure personnel are properly trained in AOAP procedures.
  - (5) Ensure subordinate units record a laboratory-identified deficiency in equipment maintenance records. Units will notify the laboratory on DA Form 3254–R (Oil Analysis Recommendation and Feedback (LRA)) within 5 days of maintenance action taken.
  - (6) Ensure organizations incorporate AOAP processes in local standard operating procedures (SOPs). AOAP procedures are outlined in DA Pam 750–8 and DA Pam 738–751. Laboratory products and services are identified in TB 43–0211.

## **2–20. Commanding General, U.S. Army Intelligence and Security Command**

The CG, INSCOM will operate and maintain assigned command-unique intelligence materiel.

## **2–21. Capability developers**

CAPDEVs as identified in AR 700–127 will—

- a.* Include management and performance of the materiel maintenance function in the development of concepts, doctrine, materiel requirements, organizations, and management information systems.
- b.* Determine the maintenance impact of new materiel or concepts.

- c. Assist in planning for logistics demonstrations and maintenance tests and conducts analyses of results.
- d. Balance performance capabilities with those of reliability, availability, maintainability, and supportability.
- e. Determine capabilities and develop the documentation for training devices.
- f. Coordinate with MATDEVs and the LCMC to ensure materiel maintenance considerations are included in capabilities documents.
- g. Assist in maintenance test planning and conduct analyses of test results.
- h. Determine skill requirements for BDAR and develop techniques and criteria for making repair, evacuation, and/or mutilation decisions based on time limits and available skills.
- i. Review all new and revised technical and equipment publications, including MACs, before publication in accordance with AR 25–30.
- j. Define corrosion resistance capability desired as related to reliability, availability, maintainability, and supportability.
- k. Ensure requirements for winterization kits that facilitate operation in areas where temperatures are from -25 Fahrenheit to -50 Fahrenheit are applied.

## **2–22. Materiel developers**

MATDEVs, as identified in AR 700–127, will—

- a. Coordinate the materiel maintenance considerations to be included in requirement documents with CAPDEVs, including the LCMC.
- b. Ensure that the materiel-fielding plan meets the requirements of the Army Maintenance System.
- c. Ensure that reliability, availability, and maintainability (RAM) are included in design parameters and demonstrated during operational testing.
- d. Ensure that reliability-centered maintenance (RCM) is a basic precept in developing the maintenance concept (see ADS–79–HDBK for aircraft and/or aviation systems).
- e. Determine, in coordination with the designated major subordinate command (MSC), the SOR for depot-level maintenance (such as organic or contract).
- f. Ensure ILS and/or logistic support analysis results are incorporated in initial maintenance planning and/or development concepts.
- g. Ensure that trained personnel, TMDE, facilities, specialized tools, support equipment, repair parts, and publications are available when the system is delivered to the user.
- h. Participate in planning and conducting logistics demonstrations and operational maintenance testing.
- i. Comply with the policy and responsibilities for type classification, material release, fielding, and transfer process as described in AR 700–142 in the performance and management of the material maintenance function.
- j. Establish and monitor MWO programs per AR 750–10.
- k. Ensure mandatory modifications are developed, tested, funded, applied, and reported to the MMIS per AR 750–10.
- l. Develop BDAR techniques, procedures, and related tool and materiel requirements in accordance with CAPDEVs. The developers will also ensure BDAR concepts are incorporated into new materiel development.
- m. Develop initial fielding ORF requirements and request approval through ASA (ALT), DCS, G–4, DCS, G–8, to DCS, G–3. Consolidate and submit ORF requirements annually for review and authorization through ASA (ALT), DCS, G–4, DCS, G–8, to DCS, G–3.
- n. Incorporate condition based maintenance plus (CBM+) technologies and concepts in the design, development, and improvement of equipment where it is feasible and cost-effective based upon a cost benefit analysis conducted by the PM (see ADS–79E–HDBK for aircraft and/or aviation systems).
- o. Ensure that performance-based logistics (PBL) product support strategies are compatible with Army maintenance doctrine and that all statutory and regulatory requirements governing depot maintenance are preserved (see AR 700–127).
- p. Ensure that data collected from all levels of maintenance are analyzed and used for reliability improvement and updating logistical and manpower data bases used in determining Army force structure maintenance requirements purposes.
- q. Ensure that equipment is designed with the need for a minimum number of common and special tools.
- r. Support the SDC Program as required in paragraph 8–4.
- s. Establish and maintain an Age Exploration Program.
- t. Include requirements for compliance with Federal environmental quality standards for equipment procured and supported by the Army (in accordance with AR 200–1).
- u. Coordinate BOIP feeder data with the CAPDEV to include the LCMC to facilitate planning for distribution of operator and support personnel and support equipment.
- v. Implement management controls to ensure support of the Manpower Requirements Criteria Program in accordance with guidelines outlined in AR 71–32, AR 70–1, and associated publications.



- w. Ensure the BOIP feeder data documents the major item system map.
- x. Ensure that modifications to Army equipment are applied and reported in accordance with AR 750–10.
- y. Ensure that maintenance float requirements established for equipment being fielded are based on usage data for similar items or best available engineering data.
- z. Coordinate with ASA (ALT), DCS, G–3/5/7, DCS, G–4, and DCS, G–8 to ensure ORF requirements are documented at ACOM, ASCC, and DRU level in conjunction with materiel fielding plan development.
- aa. Provide procedures and help desk assistance to facilitate the repair or replacement of automation system tactical computer exchange (TCX) items authorized for repair or replacement at the field or sustainment maintenance level.
- bb. Ensure requirements for lubricant analytical devices or instruments are coordinated with AMC LOGSA PM AOAP.
- cc. Establish depot maintenance support programs for a new system and its secondary items so that the depot is ready to perform depot maintenance not later than 4 years after initial operating capability (IOC).
- dd. Ensure the acquisition and supportability strategies address chemical, biological, radiological, and nuclear survivability for each Army mission critical system required to withstand nuclear weapons effects, chemical, biological, and radiological contamination, and environmental contamination to ensure preservation of survivability features during the system’s entire life cycle.

## **Chapter 3**

### **Maintenance Policies and Structure**

#### **Section I**

#### **Maintenance Policies**

##### **3–1. Overview**

a. The purpose of Army maintenance is to preserve the required performance capabilities of Army materiel or to return those assets to their baseline performance capabilities. Maintenance is an enabling process to meeting Army Force Generation (ARFORGEN) requirements. ARFORGEN is the process used to generate and regenerate combat power and preserve the capital investment of combat systems and equipment to enable training and mission accomplishment.

b. Army maintenance is founded on the principle that the useful service life of Army equipment is achieved when the item is operated within its intended purpose and parameters and is maintained in accordance with its designed or engineered specifications. When an equipment item achieves its useful service life, the Army will use acquisition, recapitalization, or overhaul to sustain the equipment. The Army relies on four core maintenance processes to manage equipment during the course of its useful service life to achieve a high state of readiness. They are performance observation, equipment services, fault repair, and single-standard repair.

(1) Performance observation is the foundation of the Army maintenance program and is the basis of PMCS that are required by all equipment TMs in the before, during, and after operation checks.

(a) Through observation, the operator documents observed performance against established standards and reports problems that degrade equipment before they become catastrophic.

(b) The TM 10 series and TM 20 series and the applied or appropriate technical data plan(s) designate the standards for all equipment. This allows leaders the ability to designate the time and location of repair that save precious manpower and materiel resources. It is also the most effective method of managing a large fleet of equipment when time and manpower are limited and distances between support and the supported equipment are great.

(c) The Army will automate the recording and transmitting of PMCS data, which are appropriately captured by operator observation and embedded sensors to conduct diagnostics or prognostics enabling CBM+ (see ADS–79E–HDBK for aircraft and/or aviation).

(2) Equipment services are specified maintenance actions performed when required where equipment, components, and systems are routinely checked, adjusted, changed, analyzed, and lubed, in accordance with designer and engineer specifications.

(a) The Army uses services to focus manpower resources on equipment to maintain operational and useful service life.

(b) Services on equipment include more than the application of a lubrication order (LO) or performance of service tasks. They include repair of faults and deficiencies as determined by performance observations, system and component checks, and analysis, updates, and Army Equipment Safety and Maintenance Message Notification System messages, to include SOUMs, maintenance advisory messages, safety of flight messages, aviation safety action messages, and MWOs. Maintenance personnel should use services to replace faulty items or avoid projected component failures based on reliability analysis and engineering documentation and maintenance histories. This will result in a higher level of reliability in combat and is more cost effective.

(c) The Army leverages service time to maintain equipment service life and increase readiness. This supports wartime readiness and training.

(d) MATDEVs will develop strategies to conduct services based on the condition of the equipment or evidence of need. These strategies will eliminate current time-based intervals where possible and enable CBM+.

(3) Fault repair is the process used by operators and maintenance personnel to restore an equipment item to full functionality as originally designed or engineered. Faults include deficiencies and shortcomings.

(a) The Army uses trained personnel, TMDE, technical information, tools, and logistics automation to accomplish this process.

(b) Fault repair requires a mechanic and/or technician to diagnose all equipment, component, assembly and subassembly malfunctions accurately the first time, order the correct repair parts, and install them immediately.

(c) Commanders, leaders, and maintenance managers prioritize repair of deficiencies based upon criticality.

(d) The Army standard is the correction of all deficiencies and shortcomings as they occur. The basis for the Army standard is fault correction (deficiencies, and shortcomings) as established by Army TMs and the applied or appropriate technical data plan(s).

(4) Single-standard repair is a process that seeks to ensure a single repair standard is applied to all end items, secondary items, and components repaired and returned to supply. This process assures high quality and establishes a predictable service life using the best technical standard. This ensures that users do not waste manpower resources troubleshooting failures and replacing components needlessly. For specific guidance on single standard repair, see paragraph 8–14.

(a) The Army allocates resources to commanders to maintain its equipment at prescribed readiness levels. Commanders apply manpower, tools, test equipment, repair parts, maintenance kits, equipment, facilities, other resources, allocated dollars, and the Army Maintenance Management System (TAMMS) and/or TAMMS–Aviation to perform maintenance on Army equipment. When resources are allocated and applied correctly, unit commanders will realize the useful service life of their equipment and achieve prescribed readiness levels.

(b) The maintenance policies described in this regulation are not intended, nor should they be construed, to preclude compliance with the policies and responsibilities for type classification, material release, fielding, and transfer process in accordance with AR 700–142.

(5) Airworthiness is the result of a process that extends throughout the entire aircraft weapon system’s life cycle. Aircraft maintenance must be performed in accordance with approved TMs. Any deviation from standard maintenance will be handled in accordance with AR 70–62.

### **3–2. The Army maintenance standard**

a. The Army has one maintenance standard, TM 10 series and TM 20 series. This standard is defined by the TM 10 series and TM 20 series, and/or by the appropriate or applied technical data plans.

b. Army equipment meets the maintenance standard when the following conditions exist:

(1) The equipment is fully mission capable (FMC).

(2) All faults are identified following prescribed intervals using the “items to be checked” column of the applicable TM 10 series and TM 20 series PMCS tables. Aviation faults are determined by using the aircraft preventive maintenance inspection and service in accordance with TM 1–1500–328–23.

(3) All repairs, services, and other related work that will correct field-level equipment and/or materiel faults for which the required parts and/or supplies are available have been completed in accordance with DA Pam 738–751 or DA Pam 750–8.

(4) Parts and supplies required to complete the corrective actions, but which are not available in the unit, are on a valid funded requisition in accordance with AR 710–2.

(5) Corrective actions that are not authorized at field level by the applicable TM’s MAC must be evacuated to the next higher level (sustainment) and use appropriate turn-in documentation as specified in AR 710–2 and DA Pam 710–2–1 for turn-in to supply.

(6) Scheduled services are performed at the service interval required by the applicable technical publication. Because of competing mission requirements, units are authorized a 10 percent variance when performing scheduled services. Procedures to apply this variance are found in DA Pam 750–8 for ground equipment and TM 1–1500–328–23 for aviation equipment (Afloat pre-positioning ships–Afloat are excluded from this variance requirement).

(7) All routine, urgent, and emergency MWOs are applied to equipment and reported in the MMIS in accordance with AR 750–10. In addition, actions required by one-time SOUMs and emergency safety of flight messages are completed in accordance with AR 750–6 and AR 95–1.

(8) All authorized BII and COEI are present and serviceable or on a valid supply request. For aircraft, all authorized flyaway items and items listed on the aircraft inventory master guide are present and serviceable or on a valid supply request.

- c. The Army maintenance standard applies to all equipment except equipment used as training aids that require frequent disassembly and assembly.
- d. Proper use, care, handling, and conservation of materiel per applicable technical publication are mandatory.

### 3-3. Priorities

a. Army maintenance tasks and operations will be conducted in established maintenance mission priority sequence, based ultimately upon the mission of the requesting organizations and the relevance and importance of the maintenance work that must be done. In the Army's overall logistics management system, relevance and importance are expressed as urgency of need. Requesting organization commanders will determine the appropriate maintenance priority on any work request, based upon the organizations urgency of need and urgency of need designator (UND). Once the UND has been selected, it will be used in table 3-1 to identify the correct maintenance priority designator (MPD). Units can locate their force activity designator in the Structure and Manpower Allocation System or contact Army G3 FMP. Table 3-2 indicates the Army maintenance turnaround time (TAT) standard (upper limit) that is associated with the customer MPD that is entered on a work order.

**Table 3-1**  
**Priority designator (relating force and/or activity designator to urgency of need)**

Force activity 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 3-2**  
**Maintenance priority designator and turnaround time standards (calendar days)**

MPD	TAT standard
01-03	5 days
04-08	8 days
09-15	30 days <sup>1</sup>

Note:

<sup>1</sup> Customer organizations may specify a required delivery date that is longer than 30 days when mission schedules permit.

- b. UND A will be assigned to unserviceable equipment under the following circumstances:
- (1) The unit and/or activity is unable to perform its assigned operational mission.
  - (2) Materiel to be repaired is MTOE equipment that is reportable under AR 220-1 and TDA equipment that is reportable under AR 700-138 and listed on the current maintenance master data file (MMDF) received from AMC LOGSA.
  - (3) The unit and/or activity is unable to perform assigned training missions.
  - (4) Repair of essential facilities of an industrial and/or production activity manufacturing, modifying, or maintaining mission-essential materiel is required.
  - (5) The materiel is an intensively managed or critical item.
- c. UND B is used in assignment of maintenance priorities for repair of materiel when—
- (1) The unit and/or activity's ability to perform its assigned operational mission is impaired. Without such materiel, the unit and/or 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 and is not reportable under AR 220-1 or 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 DA Form 1352 (Army Aircraft Inventory, Status, and Flying Time)).

(3) USAR and 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 assignment of maintenance priorities for all other materiel not listed above. Any and all ERC references will be in accordance with AR 700–138.

*e.* Maintenance units and/or activities manage repair of materiel by MPD and analysis of impact on unit readiness. The usual sequence of work will be to repair the oldest job with the highest priority first. However, analysis of unit materiel readiness may dictate re-sequencing maintenance work.

*f.* As a general rule, an issue priority designator used on a requisition perpetuates the MPD assigned on DA Form 2407. AR 725–50 describes in detail supply priority designators.

### **3–4. Maintenance records**

*a.* Accuracy and completeness of records are fundamental to the ability of the Army to manage maintenance programs and to validate the configuration of maintenance manpower resources in its force structure. Commanders will assure that records of maintenance operations are accurate and complete. Resource requirements submitted in accordance with paragraph 3–5 will be based upon command historical records and such Army information resources as the Logistics Information Warehouse (LIW) and Operating and Support Management Information System. Records from such Automated Information System as Standard Army Maintenance System–Enhanced (SAMS–E), GCSS–Army, Logistics Modernization Program (LMP), TAMMS Equipment Database, Unit Level Logistics System–Aviation (Enhanced) (ULLS–A(E)), or other DCS, G–4 approved systems may also be used.

*b.* Historical records and other reports of maintenance operations will be promptly forwarded as required to information resources, such as the LIW and/or logistics integrated database (LIDB), in accordance with DA Pam 750–8 and DA Pam 738–751 (see para 4–16).

*c.* Maintenance information will be maintained and accessible from the maintenance module (MM) of LIW and/or LIDB, as well as from other available database files. LIW MM and/or LIDB information will be made available to various users Armywide for planning, programming, budgeting, program execution, and logistics management purposes (see para 4–16 of this regulation for more information on the LIW MM and/or LIDB).

*d.* Historical information on depot maintenance operations will be archived by AMC and provided on demand to appropriate users.

*e.* Historical documentation will be maintained at the appropriate levels of maintenance and repair (field and sustainment) in accordance with DA Pam 750–8, DA Pam 738–751, LIS end user manuals, and other applicable publications or directives.

*f.* For Army aviation assets, all maintenance engineering calls (MECs) written against a specific airframe will be retained in aircraft historical records and the aircraft logbook as long as the deviation is in effect in accordance with the requirements of AR 70–62. For cartridge actuated devices and propellant actuated devices, DOD identification code, lot numbers, shelf life, and install date information is required to be maintained in the electronic aircraft logbook in accordance with AR 5–13.

### **3–5. Maintenance resourcing**

*a.* All Army organizations having the responsibility to maintain and repair equipment will be adequately equipped, staffed, and funded for that purpose. The PPBE process will be used to implement this policy. Staff advice and assistance in resource development for maintenance programs will be provided to ACOMs, ASCCs, DRUs, and ARSTAF by the DCS, G–4.

*b.* MTOE and deployable MTDA organizations will be augmented in peacetime garrison operations when maintenance Soldier availability of maintenance man-hours is less than the MTOE and/or MTDA projected wartime availability of maintenance man-hours. This policy is to ensure that MTOE equipment will always be ready to meet Army mission requirements. Augmentation will be programmed along with other training and operations resources under the staff supervision of DCS, G–3/5/7. When ACOM, ASCC, and DRU commanders augment military organizations with contract logistics support, the methodology at appendix C will be used to compute requirements.

*c.* ACOM, ASCC, and DRU commanders will ensure that assigned and/or attached military maintenance personnel are used in maintenance operations as outlined in paragraphs 3–10 and 3–11.

*d.* Maintenance operations resource requirements to support Regular Army and RC installations and nondeployable TDA organizations will be programmed and submitted during the PPBE process to the appropriate HQDA staff element in accordance with HQDA resource formulation guidance.

### 3–6. Army maintenance management metrics

All Army MTOE, TDA, and contract maintenance operations will provide maintenance support within the timeframe required by requesting organization commanders. The time required for maintenance organizations to respond to user organization requests for maintenance services will be determined and assigned by following the policy on maintenance priorities outlined in paragraph 3–3 for data input from SAMS–E and/or Standard Army Maintenance System–Installation Enhanced (SAMS–IE) and command unique maintenance systems to AMC LOGSA and/or LIW. All organizations in the Army will implement a system of metrics by which commanders, leaders, and managers will assess the success of maintenance operations for which they are responsible. Metrics, mission performance scorecards, and the historical records that derive from them will be used as objective evidence for implementing operational improvements where necessary and as justification for additional resources when required.

a. For Army-level maintenance management performance, the primary metrics used at HQDA are shown in table 3–3.

**Table 3–3**  
**Primary metrics**

Metric	Description
Total logistics response time–maintenance (TLRT–M)	The period of time that elapses between— 1. The time an item of equipment or component becomes unserviceable; and 2. The time that the item or component is returned to a serviceable status after receiving requested maintenance repair or services.
TAT	The period of time that elapses between— 1. The time that a maintenance organization accepts a unit work order, followed by accomplishment of the work; and 2. The time at closeout of the work order.

Note:

<sup>1</sup> TLRT–M is the primary metric for monitoring how quickly maintenance support at any/all levels 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 the Strategic Readiness System. The item or component may undergo some or all of the status changes as outlined in DA Pam 750–8.

<sup>2</sup> TLRT–M is a DOD-recognized and Armywide metric that recognizes that Warfighter support requirements have the highest priority.

b. Army maintenance organizations will minimize TAT and TLRT–M. Commanders will—

(1) Manage manpower and, when available, contract manpower (in accordance with the terms of the contract). Commanders will adhere to manpower utilization standards as described in paragraph 4–14 of this regulation. Commanders will use metrics in appendix B and the summary reports found in the Integrated Logistics Analysis Program (ILAP) to assist in isolating problem areas and initiating corrective action. Maintenance personnel will be trained and be competent in maintenance tasks and will be assigned to and working in maintenance duties.

(2) Ensure that shop and bench stocks (combat spares, as applicable) are readily available to support maintenance operations. Shop stocks and bench stocks will provide repair parts and supplies that fully support TAT standards and customer TLRT–M standards. Policies for managing shop and bench stocks are found in AR 710–2.

(a) Shop stocks will be maintained when a maintenance provider organization is not co-located with a supply support activity (SSA). Separate shop stocks are not authorized for maintenance provider organizations and elements when maintenance personnel have prompt, secure, “walkup” access to SSA stocks. Under co-location conditions, supplies must be made accessible, within minutes of the supply requirement, through informal supply procedures and local SOPs. These conditions apply equally to MTOE or TDA Government organizations. Contract providers will be managed on a performance basis and the shop stock option or provision will be addressed in the contract instrument.

(b) Bench stocks will be made available in all maintenance operations.

(c) Repair parts needed to complete repairs and not available from shop stocks will be requested, following policies in AR 710–2, with issue priority designators that are consistent with the MPDs on the work orders.

(3) Ensure that Army maintenance regeneration enabler items are restored to serviceability using the same MPD as applied to the end items for which they were exchanged and that the items are properly managed. See paragraph 3–3 and chapter 8 of this regulation for Army maintenance regeneration enabler management policy.

(4) Ensure that maintenance facilities will adequately support mission operations. Commanders will review, at least annually, the adequacy of garrison and/or installation maintenance facilities in accordance with standards developed in accordance with AR 210–14.

(5) Ensure that tools and test equipment are provided and are calibrated in accordance with applicable technical publications. AR 710–2 and AR 750–43 provide policy guidance in these areas.

*c.* Ensure that tools and test equipment are provided and are calibrated in accordance with applicable technical publications. AR 710–2 and AR 750–43 provide policy guidance in these areas.

(1) TLRT–M—

(*a*) MTOE TLRT–M status.

(*b*) TDA TLRT–M customer wait time status.

(*c*) Contractor TLRT–M status.

(2) TAT status—

(*a*) MTOE maintenance organization TAT.

(*b*) TDA maintenance organization TAT.

(*c*) Contract maintenance organization TAT.

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**UIC: WXXXXX**

**TLRT-M** = customer response time (CRT) + field maintenance turnaround time (TAT)

**CRT** = work order (WO) submission time (2 days) and customer pick-up time (one day)

**WO submission time** = date NMC status reported on Army Materiel Status System (AMSS) to date WO is accepted at field maintenance.

**Customer pick-up time** = date customer notified of WO completion to date customer returns item to FMC status on AMSS.

**TAT** = date of acceptance of customer WO to date maintenance is completed and WO is closed.

**TLRT-M** = CRT (3 days) + TAT standard for customer-assigned maintenance priority designator (MPD).

**TAT standard**

MPD	Time
01-03	5 days
04-08	8 days
09-15	30 days

*Note: Customer units will specify an RDD if maintenance services are not required within 30 days. Standard for TAT longer than 30 days = number of days between date of acceptance of the WO and the customer assigned RDD.*

**TLRT-M status report**

	Last reporting period	Last quarter	Fiscal year to date
Number of CWOs in period.	105	365	470
Number of CWOs in period that met the Army maintenance TLRT-M standard.	65	275	340
Number of CWOs in period that failed to meet the Army maintenance TLRT-M standard.	40	90	130
Number of CWOs in period that failed to meet the Army maintenance TLRT-M standard because of excessive CRT.	22	55	77
Number of CWOs in period that failed to meet the Army maintenance TLRT-M standard because of excessive TAT.	18	45	53

Figure 3–1. Sample of total logistics response time – maintenance status report

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Force tree selected: STANDARD FORCE

FROM: 2013-02-01

ACOM, ASCC, and/or DRU: Eighth U.S. Army

TO: 2013-03-01

Total items selected: (insert number)

Date grouping method: Year

Report: Maintenance summary

UIC Type: Field maintenance

Unit Type: MTOE

### Total number of CWOs

MACOM	Organization	UIC	MATCAT	# Work Orders	MPD 01-03	MPD 04-08	MPD 09-15	Other
EUSA	B CO, FSB, 2ID	WUV1C9	ALL	74	22	30	20	2

### Number of work orders closed within MPD timeframe

MATCAT	# Work Orders	MPD 01-03	MPD 04-08	MPD 09-15	Other
ALL	70	20	28	20	2

Organizational rating (based on total work orders): **GREEN**

### Rating Metrics

Rating	Description
GREEN	Percentage of work orders closed within MPD timeframe equals 90% or greater.
AMBER	Percentage of work orders closed within MPD timeframe equals 70% to 89%.
RED	Percentage of work orders closed within MPD timeframe equals 69% or lower.

Figure 3–2. Sample of modified table of organization and equipment maintenance organization turnaround time report

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Force tree selected: STANDARD FORCE                      FROM:            2013-02-01

ACOM, ASCC, and/or DRU: IMA                              TO:                    2013-03-01

Total items selected: (insert number)                      Date grouping method: Year

Report: Maintenance summary                                  UIC Type: Field maintenance

   Unit Type: TDA

**Total number of CWOs**

MACOM	Organization	UIC	MATCAT	# Work Orders	MPD 01-03	MPD 04-08	MPD 09-15	Other
IMA	Camp Swampy DOL	WC24DA	ALL	92	27	42	20	3

**Number of work orders closed within MPD timeframe**

MATCAT	# Work Orders	MPD 01-03	MPD 04-08	MPD 09-15	Other
ALL	75	20	34	18	3

Organizational rating (based on total work orders): **AMBER**

**Rating Metrics**

Rating	Description
GREEN	Percentage of work orders closed within MPD timeframe equals 90% or greater.
AMBER	Percentage of work orders closed within MPD timeframe equals 70% to 89%.
RED	Percentage of work orders closed within MPD timeframe equals 69% or lower.

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**Figure 3–3. Sample table of distribution and allowances maintenance organization turnaround time report**

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Force tree selected: STANDARD FORCE      FROM:      2013-02-01

ACOM, ASCC, and/or DRU: USAMC      TO:      2013-03-01

Total items selected: (insert number)      Date grouping method: Year

Report: Maintenance summary      UIC Type: Sustainment maintenance

Unit Type: Contractor

### Total number of CWOs

MACOM	Organization	UIC	MATCAT	# Work Orders	MPD 01-03	MPD 04-08	MPD 09-15	Other
USAMC	URFIXED, INC.	WB4Z1V	ALL	208	52	98	54	4

### Number of work orders closed within MPD timeframe

MATCAT	# Work Orders	MPD 01-03	MPD 04-08	MPD 09-15	Other
ALL	150	30	72	44	4

Organizational rating (based on total work orders): **AMBER**

### Rating Metrics

Rating	Description
GREEN	Percentage of work orders closed within MPD timeframe equals 90% or greater.
AMBER	Percentage of work orders closed within MPD timeframe equals 70% to 89%.
RED	Percentage of work orders closed within MPD timeframe equals 69% or lower.

Figure 3–4. Sample contractor maintenance organization turnaround time report

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## 3–7. General policies

- a.* An officer or civilian equivalent qualified in maintenance management will be appointed as maintenance officer, in writing, at each level of command. Maintenance officers will provide staff supervision of materiel maintenance operations within the organization. MTOE units that have insufficient officers for these duties may appoint a qualified NCO as the maintenance officer.
- b.* SOPs will be established and maintained by all Army organizations and activities performing maintenance operations.
- c.* Commanders will provide maintenance that supports achievement of readiness objectives in AR 700–138 and will meet the Army maintenance TLRT–M and TAT standards in paragraph 3–6.
- d.* Repair will be done by replacing components at the point of failure, whenever possible, using the maintenance activity that has the capability and authority to perform the work.

*e.* Maintenance operations will be performed by military personnel in combat or hazardous duty areas as determined by the combatant commander, except as outlined below. A workforce comprising military personnel, Government employees, and/or contractor maintenance organizations may perform maintenance operations in garrison and/or sustainment locations.

(1) In garrison and/or sustainment locations, contractors and contracted maintenance services are authorized to supplement manpower shortfalls in MTOE field maintenance organizations when commanders determine that their maintenance capability cannot perform to the required standard. Commanders will not augment maintenance operations at the expense of Soldier readiness and proficiency in their MOS. ACOM, ASCC, and DRU commanders will address contract maintenance requirements during the planning, programming, and budgeting process as outlined in paragraph 3–5.

(2) Funds to support contract labor to augment field maintenance should come from existing unit operational tempo funding, where applicable.

*f.* All Army maintenance operations will be conducted in accordance with the environmental security provisions of AR 200–1 and the underlying Federal, State, local and host nation laws and directives. Commanders will aggressively support environmental protection programs and policies in their maintenance and supply operations. Commanders will use the DA standard environmental security Automated Information System for hazardous materials and hazardous waste management to assist them in complying with Federal, State, and local environmental laws and regulations while accomplishing their maintenance support missions. Commanders desiring exemption to the requirement for use of the Army standard environmental security software must submit requests through their ACOM, ASCC, and DRU to the DCS, G–9.

*g.* Field maintenance activities will clean equipment identified to have evidence of biohazards including human tissue and body fluids. Field maintenance commanders must have medical protection equipment, soap and water or a high pressure washer or steam cleaner and other resources to perform the task. Commanders will augment the field maintenance unit and/or activity with appropriate resources (mortuary affairs, preventive medicine teams, and local chaplains) as required.

*h.* Contractor augmentation is authorized during predeployment, reset, and to support LBE while deployed.

*i.* ACOM, ASCC, and DRU commanders will designate a sustainment maintenance activity for the cleaning of equipment identified to have evidence of human tissue and body fluids when cleaning requirements exceed organic field maintenance capability as determined by the Brigade commander. This activity must have the capability to disassemble and assemble equipment that is returned from field maintenance units to ensure proper cleaning. The ACOM, ASCC, and DRU commanders will augment the unit and/or activity with appropriate resources (mortuary affairs, preventive medicine teams, and local chaplains), as required. Preventive medicine teams will certify cleaning prior to release of equipment to combatant command forces, other repair facilities, or U.S. customs officials for shipments to CONUS.

*j.* The Army Maintenance Regeneration Enabler Program is described in detail in chapter 8 of this regulation.

*k.* ACOM, ASCC, and DRU commanders may authorize the fabrication of repair parts and components based on valid supply requisitions that cannot be obtained through the supply system in time to meet the requester's required delivery date. Aircraft components that are critical to flight safety, and any other weapon system component designated as a safety related item, are not authorized to be fabricated. Fabrication of parts will not be made for the sole purpose of returning items to stock.

*l.* The Army's CSI Program is fully described in chapter 8 of this regulation. The CSI Program for aviation systems will receive the highest emphasis by all levels of command and management. Army aviation mission accomplishment and aircraft and crew safety depend heavily upon the speed and accuracy of the capture of data in automated information systems used at the Warfighter level of operations. The data on CSI, captured at the field level, will be digitally transmitted to the U.S. Army Aviation and Missile Command (AMCOM), AMC for use by aviation logistics managers in AMC, MATDEVs, and other data claimants. MATDEV project managers will implement digital technologies, including automatic identification technology (AIT) in their systems, phasing out the required use of the manually prepared DA Form 2410 (Component Removal/Repair/Install/Gain/Loss Record) as rapidly as possible. Modification or alteration of Army materiel is prohibited, except as authorized by AR 750–10. Modification of equipment outside of the factory must be accomplished via a documented, official MWO. Commanders will not allow their equipment to be modified except under the provisions of a valid MWO.

*m.* The Army will, to the maximum extent possible, use common maintenance terminology and data in maintenance management programs and publications.

(1) The Commander, TRADOC will ensure that doctrinal, training, and leader development keeps pace with approved maintenance management programs and terminology.

(2) The DCS, G–4 (Maintenance Directorate) will coordinate with the Office of the Secretary of Defense (OSD) and other military departments and Services to develop common maintenance management and logistics terminology for use in Army maintenance management documents.

*n.* Management of maintenance at serial number level of detail or unique item identifier (UII).

(1) The maintenance of all end items and Class IX reparable items with a maintenance repair code (MRC) of F, H, D, or L will be managed at the serial number level of detail unless otherwise authorized by the DCS, G-4.

(2) Serial numbers for the above items will normally be recorded in maintenance automated information systems and on data plates permanently affixed to the items and/or in various machine-readable AIT devices and/or media. Examples of these are affixed or etched bar code labels, affixed or etched data matrix labels, and embedded chips.

(3) Field commanders will not change the serial number assigned to an item, regardless of changes in configuration. Under IUID, serial numbers cannot be changed.

(4) At the depot-level in AMC, the generation of serial numbers for manufactured items or assignment of serial numbers during depot-level materiel change operations will be governed by applicable DOD and Army policy and implementing AMC instructions.

(5) Serial numbers are mandatory entries in the indicated data fields of maintenance management forms and records at all levels located in appendix A.

*o.* TMDE will be calibrated per the DA TMDE Calibration and Repair Support Program (see AR 750-43 for detailed guidance).

*p.* Quality control must be fully integrated into maintenance operations to ensure—

(1) The identification of equipment faults.

(2) Compliance with repair procedures and equipment standards contained in the TMs and equipment-specific publications.

(3) The correct code is entered in the SAMS-E/SAMS-IE for the reported fault.

*q.* Maintenance policies, programs, and procedures unique to medical materiel will be maintained in accordance with AR 40-61, TB MED 750-1, and TB MED 750-2.

*r.* Maintenance policies and procedures unique to those nontype-classified and nonstandard items of equipment used by IMCOM personnel to accomplish their installation's facilities engineering mission are contained in AR 420-1.

*s.* Maintenance policies and procedures for nontactical vehicles (NTVs) will comply with policy and procedures contained in AR 58-1.

*t.* Consolidated express and military-owned demountable containers are maintained within the capability of the using unit or activity. Additional maintenance policies are contained in Defense Transportation Regulation 4500.9-R.

*u.* For Army aviation assets, a MEC will be used to address deviations from prescribed maintenance procedures and/or inspection criteria, processes and/or procedures in the appropriate maintenance TM (hard copy and electronic media) for the end item.

### **3-8. Materiel status data flow reporting policy**

*a.* This paragraph establishes and standardizes the materiel condition status report flow (including Army Materiel Status System (AMSS), Daily NMC, and work order data), defines the reporting architecture, and identifies the responsibilities for materiel status file transfers to the AMC LOGSA LIW. This policy sets the conditions for achieving the Army's ultimate objective of all Logistic Integrated System (LIS) reporting directly to LIW on a daily and or weekly basis, as well as the ultimate goal for event driven readiness (on demand near real-time readiness status). This policy applies to all materiel management and reporting activities and equipment under control of ASC.

*b.* All Army agencies and activities performing maintenance on Army equipment, are responsible for reporting maintenance and readiness information to AMC LOGSA, to include ensuring the reporting requirement is in Government contracts for logistics contractors.

*c.* The Army requires a single functional logistics information manager to eliminate continued stovepipe management of logistics information. The lack of such a manager can lead to the potential failure of the emerging logistics information systems across the service.

*d.* LIS is the system of record for AMSS, consolidates UICs into a reportable UIC, and is the method of readiness reporting at the lowest level. GCSS-Army is becoming the system of record for AMSS and reports at the readiness UIC level. LIS reporting AMSS and /or AWAME130 will continue to be processed on the 16th of the reporting month and immediately sent to AMC LOGSA not later than 2400 hours on the 19th of the month. GCSS-Army reporting AMSS will automatically at 0001 Zulu time on the 16th send to AMC LOGSA. LIS at the lowest possible level (brigade support battalion and combat sustainment support battalion) will consolidate and forward materiel readiness and/or status files, that is, closed work order (AHOD1F), National Maintenance Office (NMO) file (AHN4CD), and total cost of ownership file (AHN4FD) directly to LIW's national data repository at AMC LOGSA on a daily basis. GCSS-Army Business Intelligence Business Warehouse (BI/BW) will have data elements in a report format and the interfaces will no longer be required to LOGSA.

*e.* When aviation units use LIS to report readiness, these activities will adhere to the guidance in this policy. ULLS-A(E) systems will continue to report readiness data using the current procedures until directed differently by HQDA

or modifications to the appropriate LIS are applied to fully support and integrate aviation readiness reporting. In the interim, aviation units using ULLS-A (E) or UAS-I will use the SAMS file creation tool to create the appropriate files, for example, AHN4AD, AHN4CD, AHN4BD, and AHN4FD files. ULLS-A (E), AMSS, and/or DA Form 1352 will continue to be processed on the 16th of the reporting month and immediately sent/uploaded to AMC LOGSA before 2400 hours on the 19th of the month. GCSS-Army reporting AMSS will automatically at 0001 Zulu time on the 16th send to AMC LOGSA. Ground equipment will only be reported for AMSS in GCSS-Army. DA Form 1352 will continue to be processed on the 16th of the reporting month and immediately sent/uploaded to AMC LOGSA before 2400 hours on the 19th of the month. GCSS-Army BI/BW will have data elements in a report format and the interfaces will no longer be required to LOGSA.

*f.* LIS will not report through other levels of Standard Army Maintenance System–Level Two Enhanced (SAMS–2E) to AMC LOGSA. Maintenance and readiness managers will obtain required visibility and reports from the LIW or Web logistics integrated database (WebLIDB). Logistic Integrated systems at the lowest level will allow ILAP connectivity to pull the required files into LIW. GCSS-Army AMSS data will continue to populate in LIW. GCSS-Army does not populate ILAP with any data.

*g.* Connecting to and transmitting from LIS systems at the lowest level (Support Battalion, and in limited situations Sustainment Brigade Support Operations Office LIS or ASC LSE SAMS–2E, as applicable), not only eliminates redundant layers of LIS reporting which leads to data latency and integrity issues, but is also consistent with modular force redesign, making maintenance reporting within the modular force a plug and play capability. Any exception to this policy will be granted on a case by case basis and only with the approval of DCS, G–4. In specific situations, if the technical or functional capability is not available within the unit, Readiness (AMSS) reporting will be submitted directly to AMC LOGSA using the LIW Web base procedure. For status file upload, units will use AMC LOGSA Web-based procedures in WebLIDB or through their immediate LIS activity level support organization, for example, LRC, combat sustainment support battalion, and LSE. If the UIC is in GCSS-Army the above statement is not applicable, due to replacement of all LIS boxes.

*h.* Daily reports will be submitted to AMC LOGSA electronically via three methods depending on the unit situation and LIS architecture. Preferred method is SAMS–E units who will ensure the first supporting LIS system has established a secure file transfer protocol connection with LIW (national or regional ILAP server) to permit daily NMC, parts, and work order data files to be pulled directly into LIW on a daily basis and pushed to AMC LOGSA's LIW national data repository. The second method is for LIS systems that do not have a secure file transfer protocol connection and for ULLS–A (E) units that do not have a supporting LIS system. This method will require Web access to AMC LOGSA's LIW and WebLIDB. With the creation of subject files outlined in paragraph 3–8*d*, units will upload these files directly into the WebLIDB at a minimum once a week. The third and least productive is for special situations approved by AMC LOGSA. Daily NMC data (AWAME125) from the unit level will be sent through the supporting Standard Army Maintenance System–Level One Enhanced (SAMS–1E) (when applicable) to the first supporting SAMS–2E on a daily basis to produce the AHO026 report. Because daily NMC from SAMS–2E is only available to LIW through the LIW ILAP data pull process, connectivity with LIW ILAP is essential to providing NMC status to LIW.

*i.* The preferred method of monthly data transfer to AMC LOGSA is electronic using file transfer protocol from the first SAMS–2E site in the chain which must be registered with a data processing installation code at AMC LOGSA. If the UIC is in GCSS-Army the above statement is not applicable, due to replacement of all SAMS–1/2E boxes. For ground and/or missile submissions, only the AHO 16D.DAT file will be submitted to AMC LOGSA. If a SAMS–2E is not available for transmission of data to AMC LOGSA, the Readiness Integrated Database upload product located in the LIW may be used. When hardcopy aircraft transactions are provided, they must be received at AMC LOGSA no later than 48 hours after completion of the report period. GCSS-Army is becoming the system of record for AMSS and reports at the readiness UIC level. GCSS-Army reporting AMSS will automatically at 0001 Zulu time on the 16th send to AMC LOGSA. Ground equipment will only be reported for AMSS in GCSS-Army. DA Form 1352 will continue to be processed on the 16th of the reporting month and immediately sent/uploaded to AMC LOGSA before 2400 hours on the 19th of the month. GCSS-Army BI/BW will have data elements in a report format and the interfaces will no longer be required to LOGSA.

## **Section II**

### **The Army Maintenance System**

#### **3–9. Army Maintenance System components**

*a.* The Army Maintenance System consists of two levels: field and sustainment. Field maintenance, also known as onsystem maintenance, repairs and returns equipment to the operator or the user. Sustainment maintenance, also known as

off-system maintenance, primarily repairs and returns equipment and components to the supply system. In times of maintenance transformation or contingency operations there is a blending of traditional roles and partnership of all AMC organizations and SORs to meet the repair requirements. Examples are DOLs performing sustainment repair of Class IX.

*b.* Maintenance tasks will be performed in accordance with the MAC. Field maintenance organizations are authorized to perform all maintenance tasks coded "C," "O," and "F" as outlined in the equipment TM MAC when skilled maintainers, required SKOT, TMDE, and other necessary resources are available to perform the maintenance task.

*c.* Sustainment maintenance organizations are authorized to perform maintenance tasks coded "C," "O," "F," and "H" as outlined in the equipment TM MAC when skilled maintainers, required SKOT, TMDE, and other necessary resources are available to perform the maintenance task. Only depot maintenance organizations and AMC designated sustainment maintenance activities are authorized to perform the full range of maintenance tasks coded "C," "O," "F," "H," "L," and "D" as outlined in the equipment TM MAC when skilled labor, industrial facilities and equipment, SKOT, TMDE, and other necessary resources are available to perform the maintenance task.

*d.* Field maintenance organizations will use shop stock and bench stock management procedures outlined in AR 710–2.

### **3–10. Field maintenance**

*a.* Field maintenance is the first function of the Army Maintenance System.

*b.* Operator and/or crew maintenance is the most critical operation of the Army Maintenance System and requires continuous emphasis by all commanders and leaders.

(1) Commanders must establish a command climate that ensures assigned equipment is maintained to the maintenance standard defined in paragraph 3–2 and are responsible for providing resources, assigning responsibility, and training Soldiers to achieve this standard.

(2) Operator and/or crew performing PMCS from the applicable TM 10 series is the cornerstone of the Army Maintenance System. The before, during, and after PMCS concentrate on ensuring equipment is FMC and maintained in accordance with the TM 10 series operator's manuals.

*(a)* Faults detected during before-operations checks that make the equipment not FMC or violate a safety directive must be corrected before the mission.

*(b)* Faults detected during the mission affecting FMC must be corrected during the mission.

*(c)* Faults detected before or during the mission not affecting FMC may be corrected, if time permits, or recorded and/or 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.

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

*(a)* Performance of PMCS.

*(b)* Inspections by sight and touch of accessible components per the TM 10 series and condition-based maintenance indicators or instrumentation.

*(c)* Lubrication, cleaning (including corrective actions to repair corrosive damage), preserving (including spot painting), tightening, replacement, and minor adjustments authorized by the MAC.

*(d)* Replacement of unserviceable parts, modules, and assemblies as authorized by the MAC and carried on board the equipment or system.

*(e)* Identify and annotate corrosion and take corrective actions within the operator's capability.

*(f)* Perform preventive actions to prevent corrosion (that is, touch up painting, proper washing, and application of corrosion inhibiting compound).

(4) System specialists who receive specialized training on proponent-supported systems and are provided additional tools and diagnostic equipment will use the appropriate TMs or technical data to identify and isolate faults within systems. This will include but is not limited to:

*(a)* Performance of PMCS.

*(b)* Inspections by sight and touch of accessible components per the TM 10 series and condition based maintenance indicators or instrumentation.

*(c)* Lubrication, cleaning (including corrective actions to repair corrosive damage), preserving (including spot painting), tightening, replacement, and minor adjustments authorized by the MAC.

*(d)* Limited diagnosis and fault isolation as authorized by the MAC. This requires appropriate resources on board the equipment or system to perform these tasks.

*(e)* Replacement of unserviceable parts, modules, and assemblies as authorized by the MAC and carried on board the equipment or system.

c. Field mechanics will use the TM 10 series, TM 20 series, and TM 30 series to identify and correct faults. The TM 20 series PMCS tables are used to perform scheduled services that sustain and extend the FMC time of the equipment. Maintenance operations normally assigned to field maintenance include the following:

- (1) Performance of PMCS.
- (2) Inspections by sight and touch of accessible components in accordance with TM 10 series, TM 20 series, and TM 30 series and condition-based maintenance indicators or instrumentation.
- (3) Lubrication, cleaning, preserving (including spot painting), tightening, replacement, and minor adjustments authorized by the MAC.
- (4) Diagnosis and fault isolation as authorized by the MAC.
- (5) Replacement of unserviceable parts, modules, and assemblies as authorized by the MAC TM 30 series and below.
- (6) Requisition, receipt, storage, issue of repair parts and major assemblies not to exceed shop stock and/or authorized stockage list (ASL) stockage levels.
- (7) Verification of faults and level of repair of unserviceable materiel.
- (8) If beyond the MAC authorization, evacuate to the next higher level (sustainment) turn in to the appropriate SSA.
- (9) Recovery or coordination for transportation of equipment to and from the support unit of action.
- (10) Accomplishment of all actions directed by the AOAP.
- (11) Materiel readiness reporting per AR 700–138 and current MMDF provided by AMC LOGSA.
- (12) Ensuring that TM 10 series, TM 20 series, and TM 30 series level modification applications are properly coordinated with the installation MWO coordinator or next higher command, in accordance with AR 750–10. Annotate MWOs in the applicable maintenance LIS with an appropriate fault code, based on the classification of the MWO, in accordance with paragraphs 8–5c through 8–5e.
- (13) Providing maintenance support to sustainment maintenance activities, for example, Class VII repair.
- (14) Diagnosis and isolation of materiel or module malfunctions, adjustment, and alignment of modules that can be readily completed with assigned tools and TMDE.
- (15) Performance of light body repair, including straightening, welding, sanding, and painting of skirts, fenders, body, and hull sections when required to prevent or control corrosion or restore structural integrity. The use of Forward Repair System, Shop Equipment Contact Maintenance, and Shop Equipment Welding welding equipment, or performing welding operations using any welding device on weapons systems or their components by other than MOS trained personnel, is not authorized. Commanders may authorize other than MOS-trained personnel to perform welding operations only when they have passed the Sustainment Center of Excellence welding safety and hands-on performance test administered by an MOS 914A Warrant Officer or authorized Army certifying official, with the results maintained by the unit.
- (16) Turn-in MRC F, D, H, and L recoverable components to the supporting supply activity.
- (17) Providing field maintenance support to other field maintenance units and requesting support from other field maintenance units, as required.
- (18) Fabrication as identified by the appropriate TM.
- (19) Operation of cannibalization points, when authorized (see AR 710–2).
- (20) Identify and annotate corrosion and take corrective actions within the organization's capability to prevent or repair corrosion damage to Army materiel. Responsible for repairs up to Stage 2.

d. Performance of field-level maintenance will be documented using DA Form 2407 and records in the SAMS–E, SAMS–IE, ULLS–A(E), and GCSS–Army in accordance with AR 700–138, DA Pam 750–8, and DA Pam 738–751. This information is used to assist commanders in establishing, monitoring, and evaluating their maintenance program. Doctrinal and technical guidance for field-level maintenance operations is found in DA Pam 750–1 and DA Pam 750–3.

e. Recovery vehicle policy—

- (1) Wheeled and tracked recovery vehicles will be operated by properly trained and certified recovery personnel.
- (2) At a minimum, there must be at least one wheel recovery ASI H8 certified recovery operations individual in the vehicle while performing recovery missions using wheeled recovery vehicles, and at least two track certified ASI H8 track recovery specialist for tracked recovery operations.

(3) Wheel ASI H8 recovery specialist cannot be substituted for track ASI H8 recovery specialist.

f. Field maintenance personnel will perform technical inspections (TIs) of Class II, V, VII, VIII, and IX materiel to determine serviceability and completeness. All items will be inspected to—

- (1) Verify serviceability of the item.
- (2) Determine if unserviceable items were rendered unserviceable because of other than 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 accident-damaged equipment.

g. Authority to perform communications security (COMSEC) repair cannot be delegated. Request for waivers will be submitted through command channels to Director, U.S. Army Communications Security Logistics Activity (NETC-LOO), Fort Huachuca, AZ 85613-7041 for approval.

h. USAR specific guidance will include the following:

(1) USAR maintenance activities have been established to perform field-level maintenance, which is beyond the USAR commander's capability or authorization to perform during scheduled training assemblies. Geographical support boundaries are assigned by the USARC. The maintenance activities are designated as for ground support equipment (GSE), for watercraft, or for ground and watercraft.

(2) Equipment concentration sites (ECSs) have a maintenance branch with an area support mission and a storage branch for that equipment beyond the capability of the owning unit commander to store, maintain, or use at home station. Preference for storage location should be at unit's mobilization or AT site to minimize transportation costs and time delays during mobilization.

(3) Area maintenance support activities (AMSAs) and ECS, with an assigned maintenance support mission for small arms, are authorized to perform field maintenance. This support can be performed at the unit's home station using maintenance contact teams or at the AMSA and/or ECS when the small arms are evacuated to the AMSA and/or ECS by the owning unit. MTOE maintenance personnel may perform duties of TDA maintenance activities to maintain skills and update MOS training.

(4) USAR TDA maintenance activities are authorized to perform field maintenance as authorized by the USARC. The authorization is contingent upon availability of required resources and skilled personnel. An alternate field maintenance activity within the geographic support area may be used. When used, an installation support activity or contract may be required. Items requiring field maintenance may be evacuated to the most cost-effective location for repair or replacement.

i. ARNG specific guidance—

(1) FMS in the ARNG will provide field maintenance that is beyond the capabilities of owning units. Owing units will perform field maintenance, including scheduled services, within the capability of the unit during IDT and AT periods. Unit commanders will advise supporting FMS forepersons of field maintenance requirements that are beyond their unit's capability. FMSs will perform the following maintenance functions for surface equipment:

(a) Maintain liaison with supported unit commanders.

(b) Schedule maintenance services, when feasible, to coincide with quarterly and semiannual services.

(c) Service all equipment issued under warranty as specified in the manufacturer's service manual or materiel fielding plan.

(d) Maintain authorized repair parts and supplies when the Class IX is located at the FMS.

(e) Furnish contact teams to perform field maintenance and inspection when this is more economical than scheduling equipment into the shop.

(f) Augment maintenance that is beyond the capability of units using training sites.

(g) Provide administrative and operational control support for assigned unit assets, including readiness reporting to parent organizations.

(h) Handle equipment evacuation as follows:

1. Equipment will be processed and evacuated to CSMS and/or MATES, when required. Unit personnel will support movement of this equipment.

2. Unit personnel will support movement to FMS of equipment requiring field maintenance.

(2) The operation and supervision of a field-maintenance subshop is the responsibility of the parent FMS.

(3) UTES in the ARNG is an activity authorized to perform in-storage field maintenance. The MATES is an ARNG TDA maintenance facility which, when co-located with a CSMS, provides full-time field-level support on ARNG equipment assigned to the site. When a MATES is not co-located with a CSMS, the MATES provides field and sustainment support to assigned equipment and units. The MATES provides support in the conduct of maintenance training. The UTES and MATES are under the control and supervision of the surface maintenance manager. These activities perform the following functions:

(a) Maintain and secure major items of equipment positioned at the UTES.

(b) Accomplish the required in-storage field maintenance, on all organic and hand-receipted equipment positioned at the UTES.

(c) Maintain BII, COEI, and associated support items of equipment (ASIOE) or additional authorized list required by each owning unit for all major items of equipment positioned at the UTES.

(d) Requisition, stock, maintain, and issue field Class IX items in support of the equipment positioned at the UTES.

(e) Submit DA Form 2407, if using manual system, to the supporting SAMS-E/SAMS-IE for field and sustainment maintenance requirements for organic and hand-receipt equipment positioned at the UTES. The UTES foreperson or a formally designated representative will sign each work order request.



(f) Submit feeder data via SAMS-1E for each unit positioning equipment at the UTES in accordance with AR 700-138 and current MMDF.

(g) UTES and MATES operations are outlined in NG Pam 750-2.

(4) The ARNG CSMS will perform field and (repair and return) sustainment maintenance on all Federal surface equipment. The CSMS is under the control and supervision of the surface maintenance manager and provides field and sustainment maintenance to—

(a) Equipment pre-positioned at a co-located MATES and/or UTES.

(b) Augment support to noncollocated MATES.

(c) Supported FMSs.

(d) Any DOD agency when authorized by CNGB.

### **3-11. Sustainment maintenance**

a. Sustainment maintenance is the second function of the Army Maintenance System.

b. Sustainment maintenance is characterized by—

(1) Commodity-oriented repair of components and end items in support of the Army.

(2) Job shop and/or bay or production line operations with the capability to task and/or organize to meet special mission requirements.

(3) Structured echelons above brigade combat team.

(4) Tactical, installation, depot, and contractor activities.

(5) Facilities, tools, machinery, TMDE, and technical skills and manpower needed to execute the NMP repair standard.

c. Operations assigned to sustainment-level maintenance units and/or activities will normally include the following:

(1) Inspection, diagnosis, isolation, repair of faults within modules and/or components per the MAC. Components repaired and returned to stock will be repaired to the NMP repair standard. This process involves inspection and diagnosis, according to the depot maintenance work requirements or similar technical directions, that identifies all components exhibiting wear and directs the replacement or adjustment of those items to original equipment specification.

(2) Performance of heavy body, hull, turret, and frame repair per the MAC.

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

(4) Collection and classification of Class VII materiel (less medical materiel) for proper disposition.

(5) Operation of cannibalization points, when authorized (see AR 710-2).

(6) 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 are integrated into the overall maintenance workload.

(9) A depot maintenance work request (DMWR), national maintenance work requirement (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 (PPSS), the sustainment of the operational software embedded in weapon systems after closure of the production line.

(15) Depot repair and return programs (see para 5-9 for details).

d. AMC may grant authority to supported field maintenance units to perform the next-higher level of repair (for repair and return to user only) when the supported unit has the capability and capacity to perform the repair.

e. MTOE sustainment maintenance personnel may perform duties at TDA maintenance activities to maintain skills and update MOS training.

f. Sustainment maintenance personnel will perform TIs of Class II, V, VII, VIII, and IX materiel to determine serviceability and completeness.

g. Sustainment maintenance activities may provide support to field-level maintenance units for unique item support.

h. Depot maintenance (a distinct subset of sustainment maintenance) supports both the combat forces and the Army supply system, as described below. Depot maintenance will normally be performed by TDA industrial-type activities operated by the Army. Depot-level maintenance may also be performed by contract, installation support activity, and interdepartmental or interagency agreement.

(1) Depot-level maintenance provides combat-ready materiel to the Army supply system.

(2) Depot-level maintenance provides technical support to field maintenance units and activities. In overseas areas, a depot FRA may be established to support combatant commanders.

(3) An FRA is an AMC-resourced, directed, and controlled activity operated by contractor or organic personnel that provides sustainment-level support forward of the depot. Where possible, FRAs will provide support for multiple weapon systems or commodities.

*i.* Repair of selected economically reparable components will return the items to a serviceable condition. These items will be repaired and returned to the SSA. Repair and return to supply will be accomplished only at the direction of the NMM.

(1) Sustainment maintenance activities, to include Government contractors performing maintenance on Army equipment, will use the LIS as directed by DCS, G-4, to include Logistics Integrated System: GCSS-Army, SAMS-E, Maintenance Data Management System, Depot Maintenance Operations Planning System (DMOPS), and LMP, where applicable.

## **Section III**

### **Maintenance Providers below Depot**

#### **3-12. Logistic Readiness Center Maintenance Operations Core Maintenance functions**

*a.* The LRC will provide field level maintenance (FLM) for—

(1) Authorized base operations support equipment.

(2) Modification table of organization and equipment units without organic field level maintenance. Units provide Class IX / reimbursement; LRC provides the labor. FLM is defined as authorized personnel and equipment on the MTOE to conduct FLM work and in accordance with DFAS 37-100 MDEP definitions.

(3) Modification table of organization and equipment units with organic field level maintenance. Units provide Class IX / reimbursement; LRC will only resource labor for units with organic FLM only when the repair requirements are beyond the FLM capability of units. Capability is categorized as the lack of skills, expertise or specialize repair shops and tools to conduct FLM work only. The LRC does not resource labor due to absence of personnel.

(4) Table of distribution and allowances units requiring external maintenance support on a reimbursable basis. The LRC will perform work on a reimbursable basis in accordance with paragraph 3-13.

*b.* Limited sustainment maintenance support as approved by HQDA G4 and AMC in accordance with paragraph 3-13.

*c.* Mobilizing ARNG and USAR. LRCs will support units that are mobilizing/demobilizing in support of concept of operations.

#### **3-13. External Maintenance Support Operations**

*a.* External Maintenance Support Operations is a support concept to ensure units without organic maintenance or units lacking the capability or personnel to perform FLM have the means to accomplish repair of equipment. Units must maximize all organic maintenance capability and capacity within their logistics footprint (Support Maintenance Company, Echelon above Brigade (EAB), Sustainment Brigade) to include usage or initiation of support agreements to perform FLM before forwarding work for external maintenance support.

(1) Organic Maintenance is categorized as the authorized personnel and equipment on the MTOE or TDA to conduct FLM work.

(2) Maintenance Capability is categorized as skills, expertise or specialized repair shops and tools necessary to conduct FLM work.

*b.* ACOMs, ASCCs and DRUs will develop internal procedures for all units requiring External Maintenance Support after exhausting organic FLM capabilities and applicable support agreement opportunities prior to executing Work Order Forwarding to the LRCs/Satellite Maintenance Support Activity (SMSA) for maintenance. ACOMs, ASCCs or DRUs must coordinate procedures and requirements with AMC for Work Order Forwarding support.

(1) When units with organic FLM or maintenance capability within their logistics footprint request support (Work Order Forwarding) from the installation LRC/SMSA, the units will fully reimburse the LRC/SMSA for parts and labor. LRCs will resource labor only as identified in paragraph 3-12.

(2) When MTOE units without organic FLM capability require support (Work Order Forwarding) from the installation LRC/SMSA, the MTOE units will reimburse for parts. Labor is covered in accordance with paragraph 3-12*b*.

(3) TDA organizations must adhere the following guidelines:

*a.* TDA organizations with authorized base operations follow paragraph 3-12*a*.

*b.* TDA organizations which augment MTOEs must request maintenance support through the MTOE chain of command they are directly supporting.

(c) TDA organizations not covered in paragraphs 3–13a or 3–13b. must coordinate with their ACOM for guidance on how to receive external maintenance support.

(d) TDAs receiving maintenance support from an LRC will reimburse for parts and labor unless otherwise specified in para 3–12 or another means of resourcing is approved by AMC and the corresponding HQDA G Staff.

1. All Units must establish a method to obtain and/or transfer funding for any reimbursable requirements prior to the transfer of work to the LRC.

2. Any variation to the above guidance requires approval from HQDA G4 and/or G3 as applicable.

c. All sustainment maintenance requirements must be vetted through AMC appropriate Life Cycle Management Commands (LCMC) for repair and/or turn-in/replacement.

d. AMC, the National Maintenance Manager, may workload qualified LRCs to perform national maintenance repairs on a reimbursable basis based on national need. LRCs must be readily expandable to support mobilization workloads and maintenance requirements when MTOE units are displaced or inactivated. Any new Work Order Forwarding requirements must go through the POM process, and be recognized and resourced before implementation or execution of new mission.

**Table 3–4**  
**Special repair authority and/or one-time authority quarterly report data elements**

Seq#	Column title	Description
1	ACOM, ASCC, DRU, and/or ARNG	Army command, Army service component command, direct reporting unit, ARNG where item is being repaired.
2	Installation name	Name of the installation where item is being repaired.
3	Unit or organization	Maintenance activity where item is being repaired.
4	UIC	The maintenance activity UIC.
5	SRA and/or one-time repair (OTR)	Indicate if the task is an SRA or an OTR.
6	SRA number	If and SRA, display the SRA number.
7	SRA Expiration date	Display the SRA expiration date.
8	National item identification number (NIIN) and/or material	NIIN and/or material.
9	Nomenclature	Name of item from Federal Logistics Data (FED LOG).
10	End item and/or system	End item or weapons system that the item goes on.
11	Quantity repaired	Quantity repaired during present month.
12	TMRC	Type maintenance request code.
13	Organic and/or contractor	Indicate if repairs were accomplished organically or by a contractor.
14	Average repair cost	Average actual repair cost per item.
15	Parts cost	Cumulative parts cost for items repaired during present month.
16	Labor cost	Cumulative labor cost for items repaired during present month.
17	Total repair cost	Cumulative total cost for items repaired during present month.
18	Type funds	Type of funding, that is, AWCF, OMA, OMA–Reserve, OMA–NG.
19	IF OTR, approval authority point of contact	Indicate name and position of person approving OTR.
20	IF OTR, list specific depot task	Describe depot-level task performed.

a. The Commander, AMC will establish the internal business rules and/or procedures necessary to implement the SRA and/or OTR process within AMC.

b. AMC will submit quarterly reports to the DCS, G–4 (Maintenance Directorate) using the data elements (RCS exempt: AR 335–15 and table 3–4).

c. The ACOM, ASCC, DRU, or other command performing work under an SRA and/or OTR will submit a quarterly report in spreadsheet format containing the data in table 3–4 to: Commander, AMC (AMCOPS–SMN), 9301 Chapek Road, Fort Belvoir, VA 22060–5527 (RCS exempt: AR 335–15).

### **3-14. Deferred maintenance**

Army commanders may be required to defer the accomplishment of maintenance because of resource shortfalls or other factors.

*a.* Army field commands will use the Army maintenance LIS that generates DA Form 5988-E, to record maintenance that has been deferred.

*b.* The DCS, G-4 (Maintenance Directorate) will track Army ACOM, ASCC, and DRU and RC deferred maintenance reports in the DCS, G-4 metrics application program, as an item of interest to DOD and Congress.

### **3-15. Authorization for Army National Guard maintenance facilities**

*a.* Requests for approval to establish surface equipment maintenance facilities and/or Army aviation support facilities or other aviation specific activities will respectively be submitted in accordance with NGR 415-10.

*b.* NG Pam 570-1 prescribes the manning criteria for maintenance activities. Criteria, allowances, and functional guidance for the construction of maintenance facilities are prescribed in NGR 415-10, NG Pam 415-12, ARNG Design Guide 415-2, and ARNG Design Guide 415-3.

*c.* Additional references include: NGR 10-1; NGR 750-52; AR 5-10; and DODI 1225.08.

## **Chapter 4**

## **Maintenance Operations**

### **Section I**

### **Materiel Maintenance, Repair, and Evacuation**

#### **4-1. General**

*a.* Proper performance of PMCS by the equipment operator will ensure early detection of faults and need for required maintenance.

*b.* MACs specify what tasks can be performed at each level of maintenance.

*c.* To ensure the most cost-effective use of maintenance resources, the economic reparability of unserviceable materiel will be determined by field units per paragraph 4-4 prior to initiating any action to repair the materiel.

*d.* Uneconomically reparable materiel will not be evacuated beyond the level authorized to dispose of or reuse the materiel. Disposal of COMSEC equipment through DLA Disposition Services channels or at the field maintenance level is prohibited. All COMSEC equipment must be turned in by user organizations to the supporting retail level SSA and shipped to Tobyhanna Army Depot for disposal in accordance with AR 710-2.

*e.* All actions relative to the inspection, classification, verification, and disposition of uneconomically reparable materiel will be accomplished in an accurate and timely manner.

*f.* All actions relative to the inspection, classification, verification, and disposition of uneconomically reparable materiel will be accomplished in an accurate and timely manner.

*g.* Materiel will be disposed of per AR 710-2.

#### **4-2. Maintenance of low usage equipment**

Services for equipment that have accumulated or are anticipated to be less than the forecasted annual mileage and/or hours of operation stated in paragraph 4-2*h* and DA Pam 750-8 may be placed into low usage service. Use of low-usage criteria does not relieve commanders of the responsibility for adequate maintenance of their equipment.

*a.* To determine if your unit's equipment qualifies for low use maintenance—

(1) Calculate the “low-usage” target mileage and/or hours by using the criteria outlined in paragraph 4-2*h* and DA Pam 750-8.

(2) Compare the actual (accumulated mileage and/or hours and forecasted training and/or operational use miles and/or hours) for an individual piece of equipment against the low use target mileage and/or hours calculated above. If the equipment item's forecasted actual mileage and/or hours will be less than or equal to low use target mileage and/or hours, then it qualifies for low use maintenance.

*b.* All service and lubrication tasks in the applicable equipment TMs and LOs must be performed, in accordance with DA Pam 750-8 before the equipment is placed in low-usage status. The date, miles, kilometers, or hours when the equipment was placed into low-usage status will be entered into the Logistics Information Systems (LIS).

*c.* Equipment that exceeds the specified criteria at any time during the year will be immediately returned to a normal scheduled service interval per the TM and/or LO from the date and usage data that was entered in Logistics Information Systems (LIS).

- d. Servicing, evaluating, and exercising recoil mechanisms and gun tubes will be done per 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. COMSEC equipment must be serviced and repaired by trained and certified CE technicians, per 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, and air traffic control equipment.
- g. The AOAP schedule will not be extended.
- h. Specific criteria for equipment being placed in a low-usage status are—
  - (1) Tactical vehicles and all trailers that have accumulated or are anticipated to accumulate less than listed equipment utilization rate in accordance with DA Pam 750-8.
  - (2) Combat vehicles (except armament, equilibrating systems, fire control components, and sighting components), missile systems (except fire control components), material handling equipment, and construction equipment anticipated to accumulate less than the listed equipment utilization rate in accordance with DA Pam 750-8.
  - (3) Generators; pumps; air compressors; support equipment (reverse osmosis water purification units, and bath units); watercraft; rail equipment; power-driven nuclear, biological, chemical equipment; engine driven heaters; and air conditioners anticipated to accumulate fewer than 75 hours in the current year.
  - (4) Communication-electronic (CE) equipment in communication shelters anticipated to accumulate less than 75 hours of operation in the current year. All remaining CE equipment, such as ground and/or 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. Hours of operation are estimates only and are not intended to be formally tracked.
  - (5) Non-power-driven Chemical, Biological, Radiological, and Nuclear equipment anticipated to accumulate fewer than 75 hours of operation in a 12-month period.
  - (6) Tentage and canvas items, immersion heaters, field ranges, and space heaters or stoves that are not used in a 12month period will be serviced or assembled annually.
  - (7) 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.
    - i. All equipment, except that stated in paragraphs 4-2h (6) and 4-2h(7), will be exercised quarterly.
    - j. Operators and/or crews will—
      - (1) Perform a monthly PMCS through monthly (before, during, after, weekly, and monthly) checks, per the TM.
      - (2) Drive combat vehicles, tactical vehicles, and pull trailers sufficiently (minimum 5 miles) to exercise seals and ensure mission capability.
      - (3) Operate construction equipment, engineer equipment, wreckers, materiel handling equipment and combat vehicles with hydraulic systems sufficiently to reach operating temperature and ensure mission capability.
      - (4) Operate generators, air compressors, support equipment, pumps, and power-driven chemical, biological, radiological, and nuclear equipment to reach operating temperature and ensure mission capability (30 minutes under load or 1 hour with no load are suggested).
      - (5) Inspect small arms and crew served weapons for rust and corrosion without leaving a humidity-controlled room.
      - (6) Emphasize 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.
      - (8) Establish and perform regular periodic inspections of the unit's usage data in the Logistics Information Systems (LIS) and check it against actual vehicle odometer reading as part of command maintenance discipline.
      - (9) Units will conduct a 25 percent validation of equipment usage data in the Logistics Information Systems (LIS) verses equipment actual odometer reading quarterly. If the validation determines that usage data is 20 percent or more inaccurate, the unit must validate all equipment usage data and make corrections as required in DA Pam 750-3.

#### **4-3. Unserviceable materiel**

- a. Unserviceable end items that cannot be repaired at field level or below depot sustainment level may either be repaired by a below depot activity when capability and capacity exists on a reimbursable and repair-and-return basis or turned in through the appropriate SSA.
- b. Field and sustainment maintenance units may provide lateral support to other units when maintenance requirements exceed capabilities.
- c. Materiel will be protected (packaged and/or crated) to prevent further damage during transfer and/or turn-in. This may include all BII and COEI.

#### 4-4. Technical inspections

a. A TI will be performed prior to repair, evacuation, or turn-in of unserviceable end items or components. TIs are to be made by technically qualified individuals assigned to a field-level or sustainment-level maintenance activity. Inspections will be performed according to equipment maintenance and serviceability standards applicable to the maintenance level performing the repair. The results of TIs are used to—

- (1) Verify serviceability.
- (2) Determine the economic reparability of the item.
- (3) Determine the extent of maintenance effort and repair parts required to restore the item to the prescribed serviceable condition.
- (4) Determine if unserviceable items were rendered unserviceable due to other than fair wear and tear.
- (5) Determine the estimated cost of damage (ECOD).
- (6) Determine if all applicable MWOs have been applied (applies to items inducted into LBE, reset, recapitalization, overhaul, rebuild, and life extension programs).

b. An MOS-qualified mechanic trained on the equipment to be inspected can develop the ECOD and/or actual cost of damage (ACOD). A designated technical inspector certifies it. The senior ranking NCO or warrant officer in the maintenance activity and/or repair section will verify all TIs and classifications (condition code (CC) “F” only). CCs of “H” and “P” must be verified through independent inspection by a sustainment-level facility or LCMC representative. Technical inspectors and maintenance personnel do not make any assessment regarding negligence or willful misconduct.

c. TI sheets will accompany all requests for disposition to the LCMC. An inspector, maintenance technician, maintenance, and/or motor officer as specified by the unit commander will verify each request. The TI sheet will accompany the applicable turn-in documentation to the managing LCMC so that accurate disposition instructions can be provided about the major end item.

d. When an inspector discovers or suspects that biohazards including human body tissue or fluids are in and/or on an equipment item, the inspector will determine the level of effort required to properly clean, and return the equipment to the Army maintenance standard to include agricultural inspection standards, health and/or 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 under the supervision of preventive medicine teams and continue with required repairs once a thorough cleaning has been accomplished. Brigade commanders will determine how much time and resources can be devoted to these efforts using mission, enemy, terrain and weather, troops and support available, time available, and civil considerations and other pertinent factors. 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. If the inspector determines that the level of effort exceeds available time, manpower, or other resources, work order will be closed and the equipment coded “H” or “P,” clearly marked, and sent to the local supply distribution point for retrograde to the designated maintenance activity capable of performing equipment cleaning, disassembly, and/or re-assembly. See paragraph 4-8 for detailed instructions.

e. When a technical inspector at field or sustainment maintenance levels detects damage to an end item and/or Class IX component through other than fair wear and tear, this damage will be documented on DA Form 5988-E/DA Form 2404 (Equipment Inspection and Maintenance Worksheet) and/or DA Form 2408-13-3 (Aircraft Technical Inspection Worksheet). The inspector’s rationale for this determination will also be included on the form. A copy of DA Form 5988-E/DA Form 2404 will be forwarded to the battalion or equivalent-level commander of the unit that ordered the work on or turned in the damaged end item and/or Class IX component. 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 inspector has physically examined the damaged property; turn-in or repair of a damaged end item or component will not be started until AR 735-5 requirements are satisfied.

f. When an owning unit suspects that damage to the end item and/or Class IX component has been caused by negligence or willful misconduct, a work order will accompany the end item and/or Class IX component to the SOR for determination of ECOD. After completion of the ECOD, the end item and/or Class IX component will be turned in or a work order for repair will be created as soon as possible, consistent with evidentiary requirements of AR 735-5.

g. When the TI supports an investigation of pecuniary liability and actual costs cannot be determined, inspectors will prepare an ECOD. Basic policy guidance for an ECOD in support of DD Form 200 (Financial Liability Investigation of Property Loss) is in AR 735-5.

h. DA Form 5988-E/DA Form 2404/DA Form 2408-13-3 will be used to record results of TIs.

i. ECOD and/or ACOD is a process used to determine the estimated cost of damage to Government-owned equipment prior to repair and/or evacuation, or turn-in of unserviceable end items or components. 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, when, upon TI by the maintainer and verified by a designated technical inspector, it is determined that damage to the equipment is through other than fair wear and tear.

(2) DA Pam 750–8 gives systematic guidance on how to prepare a DA Form 2404, DA Form 5988–E, used as an ECOD. DA Form 2407 is used to initiate a work order to perform an ECOD. The ECOD and/or ACOD may also be done on automated forms DA Form 2407 and DA Form 5988–E.

(3) The commander is the sole authority for determining the circumstances of the damage, and to assess whether or not willful misconduct or negligence occurred. If willful misconduct or negligence is suspected, initiate a DD Form 200 to formally investigate and make determination as to pecuniary liability for the damage.

(4) An MOS-qualified mechanic trained on the equipment to be inspected can prepare the ECOD and/or ACOD. A designated technical inspector certifies it. The technical inspector must be designated on orders by the company commander, and is normally the senior ranking NCO or warrant officer in the maintenance activity and/or repair section. Technical inspectors and maintenance personnel do not make any assessment regarding negligence or willful misconduct.

(5) The MEL is needed to prepare an ECOD. The MEL is the dollar amount limit that can be spent for an OTR of an item to return it to a completely serviceable condition (10/20 standard). If the cost of repair exceeds the MEL, the MEL value is used to compute the amount of loss to the Government.

(6) Repair costs are based on all costs necessary to return materiel to a serviceable condition. If repairs are determined to be within the scope of the maintenance activity, serviceability standards applicable to the level concerned will be used to determine work required.

(7) Disposition of materiel is the responsibility of the using unit and the SSA accountable officer. Disposition of uneconomically repairable materiel by supply activities is in accordance with procedures in DA Pam 710–2–1 and DA Pam 710–2–2.

#### **4–5. Verification inspections**

Verification inspections of major end items ensure the accuracy of a TI when it results in unserviceable, uneconomically repairable CC of “H” or “P.”

a. ACOM, ASCC, and DRU commanders without subordinate installations and installation commanders will ensure that—

(1) TIs resulting in unserviceable, uneconomically repairable CCs of “H” or “P” are verified using independent inspections prior to requesting disposition instructions per AR 710–2. The individual performing the initial CC classification will not perform verification inspection.

(2) Inspectors conducting verification inspections are technically qualified in the equipment commodity they are inspecting.

b. The recording of a verification inspection will be done by typing or stamping a statement on the DA Form 2404 and 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 and/or 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.”

#### **4–6. Maintenance expenditure limit**

a. MEL is the total acceptable one-time 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, and guidance in paragraph 6–39. The managing national inventory control point (NICP) 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.

(1) MEL is used to ensure economic and operational effectiveness of Army maintenance at all levels. Depot-level assistance may be obtained through the logistics assistance office.

(2) Required repairs will not be broken into separate job estimates to bypass prescribed MELs.

b. MEL will be expressed as a percentage of the unit replacement price.

- (1) MEL will be reviewed at least annually and updated as required.
- (2) MELs will be established for all items except the following:
  - (a) Materiel procured with nonappropriated funds.
  - (b) Real property fixtures.
  - (c) Nontype-classified training devices used exclusively by training institutions and schools.
  - (d) Nontype-classified equipment and items of nonstandard materiel that do not require national level materiel management or logistics support.
  - (e) Materiel exempt from type classification.
  - (f) Class V materiel.
- c. Unit replacement price will be determined in the following ways:
  - (1) For end items, use the cost from FED LOG for the source of the replacement asset. The FED LOG price used must be for the exact model of the item that is being repaired. No substitutions of different models are allowed.
  - (2) For reparable components and repair parts, use the FED LOG for the source of the replacement price.
- d. Local and/or geographical costs will be used for overhead and labor costs.
- e. ACOM, ASCC, and DRU commanders have one-time approval authority on requests for waiver of published MEL when the required maintenance can be accomplished at field and/or sustainment-level maintenance or by local contract.
  - (1) One-time approval authority is limited to a specific model or serial numbered major end item. In approving such requests, commanders will ensure the following:
    - (a) A replacement item is not available by the required delivery date.
    - (b) Resources are available or can be made available to the requesting organization to do the repairs prior to the required delivery date.
    - (c) Requesting organizations develop a repair cost estimate and justification for retention.
    - (d) Requests will not exceed the DA Form 7723 (Maintenance Expenditure Limit (MEL) Waiver) ceiling. Table 4–1 show how to calculate the DA Form 7723 ceiling.

**Table 4–1**  
**Sample of a DA Form 7723 ceiling computation**

DA Form 7723 ceiling = FED LOG price + Pw x (command average years to fielding)

The wait premium expressed as Pw is economic cost of not having a piece of equipment in any given year. Pw = last acquisition cost of replacement item and/or planned useful life (number of years). The last acquisition cost can be obtained by contacting the item manager for equipment

Example: M35A2C that will be replaced by family of medium tactical vehicles (command average scheduled fielding of family of medium tactical vehicles in 2010 or 5 years, current family of medium tactical vehicles FED LOG price is \$176, 428.00)

DA Form 7723 ceiling = \$56,832 + (176,428/20 years) x (5 years) DA Form 7723 ceiling = \$56,832 + (8821.40/years) x (5 years) DA Form 7723 ceiling = \$56,832 + \$44,107

DA Form 7723 ceiling = \$100,939

(e) A DA Form 7723 must be prepared if estimated repair costs exceed the MEL (see fig 4–1). Each LCMC will designate signature authority to approve waivers based on the dollar value of the repair program. Guidance for approving MEL based on the dollar value of the repair program should be established at each LCMC.





- (f) LCMCs will forward waivers, or the information contained therein, quarterly to the DCS, G-4 and DCS, G-8.
- (2) Only the appropriate NICP has the authority to issue fleet waivers.
- (3) Requesting organizations develop a repair cost estimate and justification for retention.
- f. The following direct costs will be used to determine repair cost estimates when faults are found during TIs:
  - (1) Direct labor. Direct labor is that labor (civilian or military) that can be specifically identified to the repair to be performed. Direct labor involves only personnel in direct productive contact with the item or service involved. This does not include initial inspection. To estimate direct labor costs, determine and/or estimate the direct labor man-hours required and multiply by the appropriate hourly labor rate.
  - (a) Direct labor man-hours. The determination of the direct labor man-hours to be applied will be based on working-hour requirements for maintenance tasks listed in applicable equipment publications; commercial flat-rate manuals, when appropriate; similar work performed previously; or individual experience. The direct labor man-hours will be periodically reviewed and updated, if necessary.
  - (b) Civilian labor rates. The cost of civilian labor will be based on a labor rate for the work center that will perform the work. The servicing finance and accounting office, whether determined from annual salaries or hourly wage rates, will provide labor rates.
  - (c) Military labor rates. Labor rates for military personnel will be the average military wage rate for the work center performing the work. The servicing finance and accounting office will provide these rates.
  - (d) Established labor rates. ACOM, ASCC, and DRU commanders and directors of agencies may establish and use standard hourly rates for direct and indirect (or overhead) labor as long as such rates are consistent with DFAS-IN Regulation 37-1. When such standard rates are established, separate rates are established for each category of supportable materiel, commodity group of equipment, and weapon system. A separate standard labor rate will be established for each major geographical area where wage levels vary significantly.
  - (2) Materiel. The cost to repair includes all materiel, including procurement appropriations funded materiel, directly applied to the particular equipment undergoing repair.
    - (a) The cost of consumable items received from the supply system may be set as billed by the supply agency. If no billing is available, the cost of consumables is set at the standard inventory price as published in appropriate supply manuals or FED LOG. Items procured from local sources are priced at the latest invoice cost. Cost of items fabricated will be based on actual cost, where possible. When actual cost is not available, engineering estimates, including indirect expenses, will be used.
    - (b) The cost of Government-furnished materiel expended by a contractor in performing all or part of the repair will be the standard inventory price.
    - (c) 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 reparable component in an amount equal to the current standard inventory price less the estimated cost to repair the component.
    - (d) Freight will not be included as an element of cost when the equipment to be repaired is located in CONUS. When the equipment to be repaired is located overseas 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 all transportation and handling costs from point of use to designated CONUS point of repair.
    - (e) When equipment cannot be repaired onsite 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.
    - g. Indirect costs to be included will be determined by applying the indirect or overhead rate to the estimated direct labor hours (DLH) (computed using DFAS-IN Regulation 37-1). The indirect expense rate will include the following:
      - (1) Manufacture or production expenses. These are costs incurred within or identifiable to the maintenance shop or organization performing the repair work, although not identifiable to particular jobs.
      - (2) General and administrative expenses. These are costs incurred in the general management or supervision of the installation as a whole that are allocated among maintenance and other activities.
    - h. Miscellaneous costs of repair will include all contractual services acquired incidental to, and identifiable with, the performance of all or a portion of the specific repair. All other costs required to accomplish the repair that are directly identifiable with the equipment will be included except those directly named in paragraph 4-6j.
    - i. Items of operating expense will include all scheduled and unscheduled services and repairs that are 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 nonreturn basis (see exceptions in para 4-6j).
    - j. The following costs will not be included in the estimate of cost to repair:
      - (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. Individual estimates to overhaul such items will be made as appropriate and required.

(4) Items of operating expense, 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. Items of operating expense include all NSNs listed in the respective 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 scheduled services.

#### **4-7. Turn-in policy for serviceable excess and unserviceable reparable parts and components**

*a.* Unserviceable reparable items will be turned in to the SSA.

*b.* All Army commanders and maintenance managers will ensure that critical items, intensively managed items, and automatic return items are returned to turn-in channels within the timeframes established by applicable directives and as required by AR 710-2 and AR 725-50. Commanders will use management information and reports from supply and maintenance management automated information systems, such as SAMS-E and Standard Army Retail Supply System, to assist them in meeting the turn-in time standards.

(1) Using units will turn in unserviceable recoverable parts and assemblies to the supporting forward distribution point (FDP) SSA within 72 hours of identification, classification, and/or removal from the end item. Serviceable excess will be turned in to the FDP SSA within 72 hours of change to excess status. This policy implements provisions of AR 710-2 on disposal of materiel for the return of excess and not repairable this station (NRTS) repair parts to supply and maintenance channels.

(2) Field and sustainment organizations and activities will turn in serviceable excess and NRTS reparable items to the supporting FDP SSA within 72 hours of completion of the maintenance tasks that removed the component from the end item and that classified the component as NRTS. This policy implements the provisions of AR 710-2 for excess serviceable and unserviceable items and applicable portions of AR 725-50.

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

(1) Damaged items. No damage statement will be required to turn in an item to the repairing facility.

(2) Steam cleaning. Steam cleaning of major assemblies and components will not be required at any level below installation and is not required at installation level for assemblies repaired at depot. Any cleaning to facilitate diagnosis or repair will be done in accordance with applicable environmental regulations. Steam cleaning, if required for overhaul/rebuild of the assembly, will be accomplished by the organization that performs this maintenance. The only authorized exception to this procedure is when steam cleaning is required to meet agricultural inspection standards.

(3) Lubricants. Lubricants will not be drained prior to turn-in. Exceptions include when a metal shipping container is not available and/or the major assembly cannot be otherwise safely transported to the repair location. If the repairing organization does not have sufficient approved capacity to collect and dispose of used lubricant, the supporting maintenance organization will be notified for disposition instructions.

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

(5) Packaging and preservation actions. These will comply with AR 710-2.

(6) Inspections. After the initial inspection is performed by the supporting field and/or sustainment maintenance activity, intermediate supply activities will not require additional classification inspections.

(7) Movement and movement control. Where possible, the major assembly or component will be shipped directly to the repairing activity. Only the associated documentation will be routed normally through appropriate supply and/or transportation management activities.

*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.

#### **4-8. Equipment transfer and turn-in**

*a.* All transfers between ACOMs, ASCCs, and DRUs must be coordinated and formalized through a jointly approved lateral transfer document prepared by the losing accountable officer (see AR 710-2). Transfers to other DOD military departments or other Government agencies must be approved by the applicable NICP in accordance with AR 710-1. Equipment that is transferred between ACOMs, ASCCs, and DRUs, including USAR and ARNG, transferred into the APS, prepared for storage below the national level, and other specified stocks will meet the following requirements:

(1) The maintenance standard as defined in paragraph 3-2.

(2) Scheduled services will be performed if 90 percent of service interval (using criteria outlined in applicable schedule) has expired as of the transfer date reflected in disposition instructions from the Item manager. The criteria for services of time are suspended during shipment and will resume upon acceptance at gaining site.

(3) The results of TM 10 series and TM 20 series PMCS and preventive maintenance inspection and service acceptance inspections (record copy of DA Form 2404/DA Form 5988-E/DA Form 2408-13-3) and other records required by DA Pam 738-751 and DA Pam 750-8 will accompany the equipment.

(4) Gun tubes will have a minimum of 500 rounds of effective full charge remaining when transferred into APS. On transfers other than into Army war reserve stocks, gun tubes will have a minimum of 75 effective full charge rounds remaining.

(5) Winterization of equipment destined for geographic locations where temperatures from -25 Fahrenheit to -50 Fahrenheit are likely.

(6) Equipment accepted for depot overhaul via the Combat Vehicle Evaluation Program or identified as a depot recapitalization candidate per MOA and/or mission training plan will not be directly transferred between ACOMs, ASCCs, and DRUs.

*b.* Equipment transfer between ACOMs, ASCCs, and DRUs in unit sets (force package fielding) will meet the following requirements in addition to those in paragraph 4-8a:

(1) Requisitions for repair parts with estimated delivery dates past the transfer date will be canceled. Appropriate funds (price from current FED LOG) will be transferred to AMC as specified in the MOA.

(2) Outstanding field and sustainment maintenance requests that cannot be completed prior to transfer will—

(a) Require the gaining and losing ACOMs, ASCCs, and DRUs to negotiate an acceptable solution such as delayed transfer dates for specific pieces of equipment. Agreement requires concurrence of DCS, G-3/5/7.

(b) Be cancelled. Appropriate funds (current FED LOG price) will be transferred to AMC as outlined in transfer MOA.

(3) ACOMs, ASCCs, DRUs, and/or agencies are responsible for funding temporary duty related to their responsibilities for transfers as outlined above.

*c.* AMC responsibilities for unit set transfers between ACOMs, ASCCs, and DRUs include the following:

(1) Serving as arbitrator for transfers as outlined in paragraph 4-8a, unless AMC is an active party in the transfer. In all matters concerning this type of transfer the arbitrator is DCS, G-4 (Maintenance Directorate).

(2) Receiving funds transferred from losing ACOMs, ASCCs, and DRUs as outlined in paragraph 4-8b (2)(b).

(3) Performing corrective actions at the receiving and/or handoff site to ensure equipment is in the same condition as reflected by record copy of acceptance inspection required in paragraph 4-8a (3) and (4).

(4) Providing total package fielding support to gaining ACOM, ASCC, and DRU.

*d.* Equipment transferred between ACOMs, ASCCs, and DRUs in other than unit sets will meet the requirements in paragraph 4-8b(2)(a). In addition, equipment will not be transferred until all corrective actions requiring parts are completed and field and sustainment maintenance requests are completed.

*e.* ACOM, ASCC, and DRU commanders will establish the standard for materiel transferred between units within the ACOM, ASCC, and DRU, except for materiel being transferred within the ACOM, ASCC, and DRU from a Regular Army unit to a RC; this materiel will be transferred in accordance with the requirements of 4-8a. Use of TM 10 series and TM 20 series PMCS maintenance standard is encouraged. ACOM, ASCC, and DRU commanders will provide necessary maintenance resources and assign responsibility for repair of materiel in the ACOM, ASCC, and DRU.

*f.* Equipment turn-in will be made in accordance with the applicable provisions of AR 710-2. The following special maintenance provisions also apply:

(1) Equipment that has been identified with 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 and—

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 work order using a work request status code of “X” and a failure code of 409, “Sanitize.”

4. Place an appropriate CC on the equipment work order writing the words of “Not Repairable This Station Cleaning required” in the remarks block.

5. Write the words, “Sanitize” using white or yellow chalk or paint on the side of the vehicle 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 and/or activity with the capability to assemble, disassemble, and clean equipment. Commanders will plan to augment field and sustainment maintenance units and/or 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 or better condition of serviceability as when originally selected (TI performed and recorded on DA Form 5988-E/DA Form 2404/DA Form 2408-13-3) for inducted into depot maintenance programs. AMC MSCs commanders will conduct depot maintenance evaluations and/or TIs and will use them for programming depot maintenance workloads and related purposes.

(a) 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 in to the supporting FDP SSA.

(b) 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 and/or operational use of the accepted item. Some of these items may still be mission capable (MC). In all such cases, the owning and/or custodial commander will perform corrective actions at the receiving/handoff site to ensure equipment is in the same condition as reflected by record copy of acceptance as required in paragraph 4-8a. To ensure that these candidate items are in the same better condition of serviceability, the equipment being turned in will be re-inspected 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 paragraph 4-8a.

(c) Cannibalization of depot maintenance candidate items and controlled exchange or component parts by field organizations are 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 property books or as candidates for cascade to RCs must have AMC item manager disposition instructions for turn-in to the Defense Reutilization and Marketing Office (DRMO) in addition to MEL documentation.

(4) Equipment used for BASOPS or for the original purpose operator and/or crew training will meet the transfer/turn-in standard in accordance with paragraph 4-8a.

(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 (for example, SSA or NICP). Commanders will ensure that these items are not cannibalized or involved in controlled exchange without prior authorization from the NICP.

(6) Items found on post may be turned in to the supporting SSA in an as-is condition in accordance with paragraph 4-8f (2); 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 (CCIs), requires the submission of a COMSEC incident report per AR 380-40 and an AR 15-6 investigation per AR 735-5.

g. Exceptions are—

(1) Aviation equipment transferred between property accounts will conform to the serviceability criteria contained in TM 1-1500-328-23.

(2) Frequently assembled and disassembled equipment used as training aids (CC “F” or less) that requires depot overhaul prior to transfer or reissue.

(3) Equipment used for BASOPS or for the original purpose operator and/or crew training that meet the transfer and/or turn-in standard in accordance with paragraph 4-8a.

#### **4-9. Controlled exchange**

a. Controlled exchange is the removal of serviceable components from unserviceable, economically reparable end items for immediate reuse in restoring a like item or weapon system to an FMC condition. The unserviceable component must be used to replace the serviceable component or retained with the end item that provided the serviceable component.

b. Controlled exchange is authorized only when—

(1) Required components are not available from the SOS within the issue priority designator indicated on the maintenance request.

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

(3) The maintenance effort required to restore all of the unserviceable reparable materiel involved to an MC condition 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) Aircraft from which a serviceable component is removed must be classified as one of the following: NMC supply, NMC maintenance, or partially mission capable.

(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 partially mission capable aircraft.

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

(8) The end item or weapon system from which the serviceable component was removed is protected from further degradation.

(9) The unserviceable component is tagged and installed on, or retained with, the end item or weapon system from which the serviceable like item was removed. In addition, the removal of the component must be recorded on DA Form 5990-E (Maintenance Request (EGA))/DA Form 2407 or DA Form 5988-E/DA Form 2404, or DA Form 2408-13-3 for the end item or weapon system. This is to retain 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 materiel to an FMC condition.

c. When the controlled exchange satisfies a requirement already in the Army supply system, that requisition will be either canceled or used to restore the unserviceable end item or weapon system to FMC.

d. Part Source Code G will be used in SAMS to indicate the component was taken from another like end item when closing the work order on the end item being returned to FMC status as a result of a controlled substitution action (see SAMS-1E End User Manual).

e. Controlled exchange by using units is authorized only when—

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

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

(3) Approved by the commander of the organization performing the controlled exchange.

f. Controlled exchange by field and sustainment levels of maintenance will be authorized only when—

(1) It is the only means of providing an FMC end item or weapon system to a supported unit within the time frame indicated by the issue priority designator on the maintenance request.

(2) Approved by the first O-5 commander of the owning equipment or sustainment maintenance commander.

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

h. Controlled exchange is not authorized when the investigating officer has not formally released materiel involved in an accident.

i. Controlled exchange is not authorized on ORF assets.

j. Control exchange documents and a controlled exchange log will be maintained in accordance with AR 25-400-2. Documentation will be filed in accordance with the record retention schedule available at <https://www.arims.army.mil>.

#### **4-10. Army Fire Suppression and Environmental Control System policy**

Only technicians who are properly trained and/or certified can service pressurized fire suppression and environmental control systems. This applies to all technicians (uniform, civil service or contractor) and all weapon systems. Training and certification must be in accordance with the environmental protection agency standards. Air condition technicians must be trained and certified. Fire Suppression System technicians need only be trained.

## **Section II**

### **Maintenance Management**

#### **4-11. Materiel records and reports**

Materiel data records and reports for maintenance management and performance of maintenance are prepared and maintained as prescribed in DA Pam 750-8, DA Pam 738-751, AR 25-400-2, TB MED 750-1, TB MED 750-2, TB MED 521, and AR 700-138.

#### **4-12. Measurement of maintenance performance**

a. The management of maintenance operations throughout the Army will be based upon a performance management approach that supports the Army management philosophy described in AR 5-1. This approach will enable the maintenance organization to develop a unified effort around goals and objectives.

b. The planning and controlling functions of management will be emphasized to ensure that—

- (1) Objectives are established to support mission goals.
  - (2) Performance is measured against quantifiable standards that reflect the objectives.
  - (3) Corrective actions taken are based on improving the factors that are constraining performance.
- c. Maintenance performance measures are the key element of the control function of maintenance operations management. Through use of performance measures, commanders and managers will ensure that their maintenance operation is providing the best possible support to sustain combat readiness.

#### **4–13. Unit-level and/or field maintenance management**

Commanders and managers will manage their field maintenance per the procedures contained in ATP 4–33, DA Pam 750–8, and DA Pam 750–3.

#### **4–14. Manpower utilization standards**

a. The ACOMs, ASCCs, and DRUs will ensure establishment of a man-hour accounting system where automated capability exists. Man-hour accounting is optional where automation is not available and manual procedures must be used. However, the utilization of maintenance manpower resources for mission accomplishment is a mandatory command/management function in Army organizations.

b. Unit commanders and installation materiel maintenance officers are responsible for using assigned military and civilian maintenance personnel. The maintenance supervisor is directly responsible for using available maintenance personnel. AR 570–4 provides policy for the availability of personnel in peacetime. Appendix B provides guidance to commanders and managers on the computation and use of manpower utilization rates. HQDA guidance for maintenance manpower utilization is as follows (percentages expressed in terms of total available time; see app B):

- (1) For military manpower, the standard utilization rate is 50 percent; the goal is 75 percent.
- (2) For civilian manpower, the standard utilization rate is 85 percent; the goal is 90 percent.
- (3) All commanders operating under SAMS and SAMS–E have the responsibility to include accurate monthly man-hour utilization in their quarterly command reviews and analyses or similar performance-monitoring programs.

c. In addition to these standards, appendix C determines the tactical maintenance augmentation requirements for military mechanics during peacetime garrison operations.

#### **4–15. Maintenance management systems**

a. The DCS, G–4 mandates the use of approved standard Army LIS, which include but not limited to: GCSS-Army, SAMS–E, ULLS–A(E), Standard Army Retail Supply System–Objective, Property Book Unit Supply Enhanced, Transportation Coordinator’s Automated Information for Movements System, and Standard Army Ammunition System–Modernization.

b. The primary functions of maintenance management include forecasting, distribution, scheduling, and production control of maintenance workloads, including inspections, services, repairs and warranty claim actions for Army equipment.

c. GCSS-Army, SAMS–E and ULLS–A(E) is the DA standard to automate TAMMS and TAMMS–Aviation, respectively, at field maintenance activities including installation maintenance operations and CLS. GCSS-Army, SAMS–E/IE and ULLS–A(E) takes precedence over all manual system, ACOM, ASCC, and DRU, installation-unique and CLS automation for Army materiel maintenance management. Management procedures for GCSS-Army, SAMS–E and ULLS–A(E) are in the applicable user’s manual. Combat and materiel developers and contract requirement packages will require contractors to use GCSS-Army, SAMS–E, ULLS–A (E), or approved and/or negotiated automated logistical system, respectively. Where circumstances do not allow this, data interfaces between CLS-unique systems and GCSS-Army, SAMS–E, or LIW are required.

d. The MM of the DOD standard Defense Medical Logistics Standard Support is the automated maintenance management system for the TDA medical maintenance activities. MTOE medical maintenance units use GCSS-Army or SAMS–E for medical equipment reporting. GCSS-Army, Defense Medical Logistics Standard Support and Theater Army Medical Materiel Information System are the systems used for maintenance management and ordering of Class VIII repair parts.

e. GCSS-Army will be the principal and comprehensive business automation enabler for the Total Army’s (Regular Army, National Guard, Army Reserve to include the supporting civilians and contractors) logistics IT mission area. GCSS-Army is replacing a variety of current logistics information systems, and automated capabilities such as the Standard Army Retail Supply System, the Standard Army Maintenance System (SAMS), and the Property Book Unit Supply–Enhanced. It also replaces the Fleet Management System used by the USARC to support equipment storage and maintenance for Reserve units.

#### **4–16. Logistics Information Warehouse maintenance module**

*a.* The LIW MM is a national-level database of historical maintenance data that is received from field and sustainment maintenance activities worldwide. The Regular Army, USAR, ARNG, Army depots, and installation, to include Government contractors (in accordance with contract terms) performing maintenance on Army equipment, will report weekly open and closed work-order production DA Form 2407 information to AMC LOGSA by close of business each Friday or the last workday of the operating production week. OCONUS organizations with high-volume maintenance operations may develop reports more frequent (that is, daily) during the week to avoid automated time-outs during data transfers.

*b.* The transfer data file will be formatted in accordance with AMC LOGSA guidelines. LIW MM data is critical to Army planning and programming and it is essential that commanders and supervisors at all levels enforce and ensure the timely and accurate reporting of maintenance actions into the LIW MM.

*c.* Maintenance activities participating as a qualified national provider within the NMP are required to send open and closed work order information to LIW daily (Monday-Friday) as specified in the NMO report. The LIW MM additionally serves as a critical data source for tools, test equipment, and personnel in determining maintenance force structure and maintenance support requirements.

*d.* Commanders at all levels will ensure that trained personnel and established SOPs are in place to meet the automated reporting requirements.

### **Section III**

#### **Technical Assistance and Supply Interface**

#### **4–17. Technical assistance**

Effective maintenance support of materiel combines the maintenance conducted by the using activity and its supporting maintenance activity. Supporting maintenance activities must maintain a proactive liaison to assist using activities in accomplishing their materiel maintenance responsibilities.

#### **4–18. Logistics assistance program and/or logistics support element**

*a.* AR 700–4 contains policy and procedures for providing technical assistance to users during and after equipment fielding.

*b.* The CG, AMC provides and manages an AMC worldwide Logistics Assistance Program for proponent materiel by determining requirements and establishing, staffing, and maintaining logistics assistance offices. The Chief of Engineers, TSG, CG, U.S. Army Signal Command, and CG, INSCOM provide logistics assistance personnel for materiel under their proponentcy.

*c.* Logistics assistance personnel will be technically knowledgeable of assigned materiel, Army field maintenance organizations and operations, and the national and retail supply system. The installation point of contact for ILAP is the Army Field Support Battalion or installation LRC. ILAP assistance can also be obtained by sending an e-mail to [support@ilap.army.mil](mailto:support@ilap.army.mil).

*d.* In accordance with ATP 4–33, the LSE is a command and control team designed to supervise and/or coordinate all in-theater support provided by applicable AMC activities, either permanently assigned to theater or deployed on a temporary basis for specific missions. It is the forward element of the national logistics base that provides support at the operational and tactical levels across the spectrum of military operations, including supporting multinational and joint operations.

#### **4–19. Repair parts supply (Class IX)**

*a.* Repair parts allocation, stockage, and supply policies and procedures are contained in AR 420–1, AR 710–2, DA Pam 710–2–1, DA Pam 710–2–2, and associated automated systems TMs.

*b.* AR 710–2 controls recovery of reparable secondary materiel.

### **Section IV**

#### **Contract Maintenance Support**

#### **4–20. Private enterprise**

*a.* When the Army Maintenance System cannot provide required support, the Army will rely on the domestic and foreign competitive private enterprise system to support its maintenance requirements.



b. The ACOMs, ASCCs, and DRUs will ensure that essential quality requirements for maintenance service contracts are defined, quantified, measured, and assessed during the contracted-out support process. Solicitations and contracts for maintenance services will require—

- (1) Quantitative measures of quality and performance.
- (2) Contractors to submit historical data that will show the capability to achieve these quantitative measures. These data are used in the solicitation review process.
- (3) Specific contractual provisions for obtaining contractor conformance, such as award and incentive fee provisions for meeting performance quality and cost standards.
- (4) Test and evaluation to be performed to demonstrate performance and corrective actions to be taken on deficiencies revealed.
- (5) For medical equipment, only TSG can authorize contract maintenance to support an MTOE unit.
- (6) Requirements for all contractors performing maintenance support to provide maintenance and usage data to Sample Data Collection and Analysis (SDC-A) program data collectors upon request. Data is normally collected by Government contractor personnel for Government only use.

c. Commanders contracting for commercial field or sustainment repair of equipment will ensure that the contract requirements package include provisions for collection of work order DA Form 2407 data from the contractor. Contractors will provide negotiated and/or approved data via LIS to the LIW MM.

d. The MATDEV will ensure any contract requirement package for commercial application of authorized and approved MWOs will include provisions that MWOs will be applied and reported in accordance with AR 750–10.

e. All contracting support is requested by submitting a requirements package to the contracting office in accordance with AR 715–9. The requirements package includes the PWS, Government cost estimate, and quality assurance surveillance plan in addition to other documentation.

f. Only contracting officers may prepare contracts.

g. The requiring activity is responsible for nominating a contracting officer representative in accordance with AR 715–9.

h. In the event of contractor deficiencies or noncompliance with the terms of the contract, the contracting officer representative should document and communicate the deficiencies to the contracting officer for corrective action.

i. Contracts with commercial sources must be administered per the FAR.

#### **4–21. Prohibitions**

a. Maintenance by contract personnel is prohibited when any of the following conditions exist—

- (1) The maintenance workload to be performed is necessary for individual and unit training.
- (2) Qualified contract personnel are not available and cannot be trained in time to provide maintenance support when needed.
- (3) In-house resources are available and contract maintenance support will result in higher cost of maintenance support to the Army.
- (4) The product or service is available from another DOD component or another Federal department or agency.

b. Restrictions are as follows:

- (1) Contractor maintenance personnel may travel to a brigade combat team operational area, as approved by the responsible area commander, on a case-by-case basis to provide temporary onsite maintenance support.
- (2) Contractors performing maintenance on COMSEC equipment must be in compliance with training, certification, and security clearance requirements per AR 25–12.

#### **4–22. Foreign enterprise limitations**

a. Foreign private enterprise can be used for contracts awarded and performed OCONUS when one or more of the following situations exist:

- (1) U.S. contractor or DOD sources lack the capacity to perform the task in the time required. In this situation, use of foreign private enterprise is interim in nature until U.S. capability can be developed or expanded.
- (2) Use of foreign private enterprise has been predetermined by international agreement.
- (3) The necessity for establishing an alternate foreign source has been determined formally by DOD as being in the best interests of U.S. strategic or tactical objectives.
- (4) Use of foreign private enterprise will not affect the development or maintenance of U.S. national capabilities.

b. The use of foreign contractual services will be contingent on U.S. contracting authority certification of quality, capability, and capacity.

#### **4-23. Readiness of modification table of organization and equipment units**

Contractual services to support readiness of MTOE units will be allowed, but generally limited to a short term—

*a.* Pending the attainment of a field or sustainment capability, or to allow for peak workloads of a transitory nature. For OCONUS, when the using field-level maintenance organization or activity does not have the capability to provide field-level maintenance to an acceptable level of readiness.

*b.* When required, programmed, and contracted by the MATDEV for an interim period to attain an earlier operational status for initial fielding of new military materiel.

*c.* For the completion of overhaul or modification of military materiel when—

(1) The extent or complexity of the modification or modernization work to be accomplished requires the technical qualifications of the original equipment manufacturer.

(2) Repairing complex electronic devices that require long-term training for skill development and expensive standalone test equipment.

#### **4-24. Contingency plans**

Contingency planners will consider the maintenance potential of facilities in overseas areas that may be operated under military control or by contractual arrangement with commercial sources.

#### **4-25. Classified communications security**

All proposals for contract maintenance support of classified COMSEC and/or signals intelligence (SIGINT) and electronic warfare (EW) equipment must undergo an assessment of risks to national security prior to using commercial maintenance sources. The National Security Agency (NSA) must conduct this special risk assessment. The proposal, including PWS with additional information identifying the COMSEC and/or SIGINT and EW equipment, density supported, and levels of maintenance to be performed, should be submitted through DCS, G-3/5/7 (DAMO-C4T), 400 Army Pentagon, Washington, DC 20310-0400, to Director, NSA (S-04), Fort Meade, MD 20755-6000. Classified equipment not under NSA cognizance being considered for maintenance support contracts to contractors other than original equipment manufacturers will be given an assessment of risk as prescribed above. Approval by HQDA is required prior to contract award. In the event of approval from NSA and/or HQDA, then the provisions of chapter 4, apply to further processing.

### **Section V**

#### **Inter-Service Maintenance Support**

#### **4-26. General**

The ISSAs will be fully explored prior to submission of requests through ACOMs, ASCCs, and DRUs to the DCS, G-4 (Maintenance Directorate) for additional or expanded maintenance facilities. This includes modernization of tooling and materiel of non-MTOE support and depot-level maintenance facilities. ISSAs will be used to provide maintenance support services when—

*a.* This means is the least costly to the Government.

*b.* Materiel to be supported is common to the Army and another service.

*c.* The supporting agency or component has the available capability to render such support.

*d.* The provision of such support provides for a reduction in NMC materiel and/or provides the potential for reducing investment and operating support costs.

#### **4-27. Exceptions**

The ISSAs will not be used—

*a.* To document transfer of responsibility for a function or mission from one DOD component to another.

*b.* When a support capability and capacity for this service is required to sustain military readiness.

#### **4-28. Personnel support**

When another DOD component or Federal Government agency has the available capability, with the exception of personnel, and the provision of the support is to the overall advantage of the Government, the matter will be referred to DCS, G-4 (Maintenance Directorate) for resolution prior to establishing duplicate facilities.

#### **4–29. Reciprocal support**

Upon request, the Army will provide maintenance support to other DOD components and Federal Government agencies to the extent that its military requirements will permit and if available capabilities and capacities exist. This support will be executed at the lowest practicable command level.

#### **4–30. Funding support**

Each Army element is responsible for programming, budgeting, and funding to support the ISSAs to which it is a party. Whenever manpower or fund requirements exceed available resources, ACOM, ASCC, and DRU commanders will seek DCS, G–4 (Maintenance Directorate) approval.

#### **4–31. Provisions of inter-Service support agreements**

The ISSAs will—

- a.* Specify responsibilities for furnishing repair parts and other support materials required for the completion of the maintenance operations. Normally, materials are provided by the agency or component furnishing the service.
- b.* Make suitable provisions for the interchange of maintenance performance and management data between all parties to the agreement.
- c.* Contain provisions for review every 2 years to determine whether the agreement should be continued, modified, or terminated.

#### **4–32. Transfer of resources**

- a.* The transfer of resources (personnel, funds, and materiel) resulting from establishment, modification, or termination of local support agreements will be accomplished per existing Army and DOD procedures.
- b.* Army agencies will provide inter-Service support on a reimbursable basis. Nonreimbursement arrangements are authorized for service provided in combat areas.

### **Chapter 5 Depot Maintenance**

#### **5–1. General**

- a.* This chapter provides policy and responsibilities governing the PPBE of depot maintenance.
- b.* The term depot maintenance consists of material 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 source of funds for the maintenance or repair or the location at which the maintenance or repair is performed. This term is applicable for all maintenance and repair tasks for Class IX items designated or coded as depot (D or L) that are performed in field or other nondepot locations. The term includes the following:
  - (1) All aspects of software maintenance classified by DOD as of 1 July 1995 as depot maintenance and repair.
  - (2) Interim contractor support or CLS (or any similar contractor support), to the extent that such support is for the performance of services described above.
- c.* In accordance with 10 USC 2460, depot maintenance does not include the procurement of major modifications or upgrades of weapon systems that are designed to improve system performance. A major upgrade program covered by this exception could continue to be performed by private or public sector activities. The term also does not include the procurement of parts for safety modifications. However, the term does include the installation effort for the excluded modifications and upgrades mentioned above.
- d.* Depot maintenance is characterized by the following two standards of maintenance:
  - (1) Overhaul is the national maintenance standard that restores 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 near zero time and/or zero mile maintenance process defined as an end item total tear down and replacement of all expendable components, all aged components, reconditioning of structural components, and the procedures identified for overhaul of the end item. Recapitalization of an item includes rebuild and should restore the item to a standard configuration installing all outstanding MWOs and/or engineering change proposals in the process and allow for technology insertion.
- e.* Depot maintenance also includes the following:

(1) Provision of stocks of serviceable equipment by using more-extensive facilities for repair than are available in lower-level maintenance activities. A DMWR, NMWR, or statement of work is required as guidance for the repair, overhaul, and rebuild processes.

(2) Technical support that exceeds the capability of field and sustainment maintenance units, as required.

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

(4) 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.

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

(6) Installation of all outstanding MWOs and minor alterations directed by the materiel proponent.

(7) PPSS, the sustainment of the operational software embedded in weapon systems after closure or the production line.

(8) Depot repair and return programs (see para 5–9 for details).

(9) Winterization of equipment destined for geographic locations where temperatures from -25 Fahrenheit to -50 Fahrenheit are likely.

(10) Prototype development (downsizing of a major system to smaller facilities to accommodate transportation and deployment mobility needs).

(11) Redesign tied to prototype (short-term fix to add capability of an emergency type).

(12) Technical documentation development (as a requirement in a statement of work agreement).

(13) New equipment training (NET) (subcontractual resources or depot resources).

(14) Unit predeployment and redeployment support (training, emergency repair, and parts replenishment).

(15) Inspect, repair only as necessary--minor repair, repair only as necessary, as per statement of work requirements.

(16) Site survey (preceding depot-level overhaul, fielding, and modifications).

(17) Mobile depot maintenance (facility and/or electronic repair to extend life of major end items when retrograde action back to depot is not feasible at this time).

(18) Reverse engineering (supplement repair efforts, reduce contractual costs or determine feasibility of items initially identified as nonrepairable).

(19) Cascade support (DLR of major end items in transition from Regular Army units to Reserve or National Guard). This may include replenishment of basic issue list items and support documentation, as well as NET and initial field support setup.

(20) Warranty support (depot-level maintenance items).

(21) Fabrication of stock replenishment where authorized by designated approving authority (items for DLA when private industry sources cannot meet required production delivery dates).

(22) Special repair teams (depot-level maintenance is not always executed at the depot). Each Life Cycle Management Center under AMC uses special repair teams, which provide inspection and field-level repair maintenance up to 10/20 standards in accordance with applicable tech manuals for ground and air assets. The special repair teams are a combination of organic and contract personnel and support such missions as Chemical Biological Equipment Repair Team and Small Arms Readiness Evaluation Team.

*f.* MATDEVs will establish depot maintenance support programs for a new system and its secondary items so that the depot is ready to perform depot maintenance not later than 4 years after IOC.

*g.* Depot maintenance will be performed by selected TDA industrial activities operated by the Army, other military Services or Government agencies, or by private-sector firms.

*h.* Determination of the need for a FRA to provide depot maintenance on select items that directly impact materiel readiness of critical systems and/or equipment will be given priority during the depot maintenance planning phase. The planning effort will give consideration to the need of the FRA to consolidate and control contractor(s) providing depot-level support to user-level operations. Depot planning will also consider this resource in developing contingency depot support for DA-directed deployments.

*i.* When directed by the NMM, overseas depot maintenance will be performed within the theater of operations to achieve the readiness or sustainability goals of deployed forces or when more cost-effective. When evaluating cost effectiveness, RCF, spare parts, facilities, transportation, plant equipment, test equipment, personnel, supply pipeline costs, and the impact on the CONUS base, including mobilization and/or surge capability, will be considered.

*j.* Overseas depot maintenance will include the cost accounting and production reporting provisions of DFAS–IN Regulation 37–1.

*k.* An overseas FRA may be established by AMC when it has been determined, in coordination with the appropriate theater commander, that in-country, forward depot support by depot personnel or by CLS operations is needed to sustain mission critical systems or components.

## **5–2. Organic Industrial Base Corporate Board roles and responsibilities**

- a. The ASA (ALT) establishes the overall policy and strategic objectives for the Army Industrial Base Program.
- b. The ASA (ALT) relies on DCS, G–4 to implement strategic guidance, monitor and evaluate organic industrial base performance, identify deficiencies, and/or problems and recommend corrective action.
- c. The co-chairmen of the Army OIBCB are the military deputy, ASA (ALT), and DCS, G–4.
- d. DCS, G–4 establishes and maintains a long-term Army Organic Industrial Base Strategic Plan for the Army OIBCB approval. On an annual basis, the Organic Industrial Base Strategic Plan will be reviewed and/or revised accordingly.
- e. The Army OIBCB is responsible for—
  - (1) Implementing strategic direction provided by the ASA (ALT).
  - (2) Govern the implementation of the Army strategy by establishing goals, objectives and strategic indicators and metrics that will define future Army OIBCB actions and direction. These strategic elements and metrics will be defined and included in a corporate strategy that focuses on the future and is linked to the Army’s Strategic Management System.
  - (3) Meet quarterly or as required to review organic industrial base enterprise programs and strategy. Quarterly meetings will occur mid-late March to influence the Mid-Year Review and mid-late June to effect necessary program changes to ensure key performance objectives such as the depot maintenance carryover and “50/50” targets are met. The Army OIBCB will meet if required during the year to resolve issues that cannot be deferred until a semi-annual Army OIBCB meeting is held.
  - (4) Provide the ASA (ALT) an assessment of the organic industrial base performance and future health. The assessment should include, at a minimum, issues impacting current and/or future capabilities and an overview of the Organic Industrial Base Strategic Plan implementation. Assessment should be presented to the ASA (ALT) on a quarterly basis within 10 working days of an Army OIBCB.
  - (5) Resolving issues associated with organic industrial base enterprise policies, guidance, programs and processes, reviewing each one and directing that the appropriate corrective action(s) be taken, to include establishing forums and study and/or working groups, as required or directed by the Army OIBCB chairman (see AR 15–1).
  - (6) Resolving organic industrial base enterprise issues raised by other Army agencies, other Services, or OSD.
  - (7) Providing guidance to the OIBEC, as required.
- f. The purpose of the Army OIBCB is to monitor organic industrial base performance and ensure the strategic guidance and direction provided by the ASA (ALT) is implemented by the Army’s organic industrial base stakeholders. The organic industrial base primary stakeholders include AMC, ARNG, USAR, and program executive offices. The Army OIBCB also provides direction to the OIBEC which has day-to-day oversight of inter-Army and intra-Army depot maintenance and manufacturing programs, to include sponsored and funded workloads of the organic Army maintenance depots and arsenals. The OIBEC operates under the chairmanship of AMC as a subcommittee reporting directly to the Chairmen of the Army OIBCB.
- g. The Corporate Board provides corporate-level strategic direction and policy recommendations across the various elements of the Army in light of the role that depot maintenance plays as a critical component of overall force readiness and logistics transformation. The Execution Council fulfills the oversight and management function necessary to improve the manner and method that depot maintenance operations are executed.
- h. The Army OIBCB will ensure that the Army organic industrial base enterprise complies with all DOD and Army policies, regulations, and guidance, to include the following specific statutory provisions:
  - (1) Definition of depot maintenance. See paragraph 5–1b. The term does not include the procurement of modifications or upgrades of weapons systems that are designed to improve program performance. An upgrade covered by this exception could continue to be performed by private or public sector activities.
  - (2) 50/50 Rule. In accordance with 10 USC 2466, not more than 50 percent of the depot maintenance workload will be contracted for performance by non-federal employees.
    - (a) Although 10 USC 2466 requires the Army to meet an aggregate minimum in DMWD ratio of 50/50, ASA (ALT) requires the ARNG, USAR, the AMC LCMCs, and the program executive offices with which the LCMCs work to meet an annual target of 52 percent organic and 48 percent contract starting in FY 08.
    - (b) In the event the Army year-end projections for the current or budget year should project that the work performed by the Federal workforce will be 52 percent or less, the Army will provide OSD with a Management Action Plan outlying actions that will be taken to preclude violating the provisions of 10 USC 2466 no later than 15 March.
  - (3) Core logistics. In accordance with 10 USC 2464, the Secretary of Defense (SECDEF) must maintain core logistics capabilities in Government-owned, Government-operated (GOGO) facilities to ensure a ready and controlled source of technical competence and resources necessary to ensure an effective and timely response to a mobilization, national defense contingency situation, or other emergency requirement.

(4) Centers of Industrial and Technical Excellence. In accordance with 10 USC 2474, the SECDEF must designate a Center of Industrial and Technical Excellence for each non-Base Realignment and Closure affected DOD depot based on core capabilities and provide appropriate reports to Congress.

### **5–3. Reporting depot-level workload execution**

Effective with the enactment of the National Defense Authorization Act for Fiscal Year 1998 (NDAA FY 98), not more than 50 percent of the funds made available in a FY to a military department or defense agency for depot-level maintenance and repair workload may be used to contract for the performance by non-Federal Government personnel of such workload for the military department or defense agency. Any such funds that are not used for such a contract will be used for the performance of depot-level maintenance and repair workload by employees of the DOD. The percentage limitation includes depot maintenance interim contractor support, CLS, and similar contracts as required by the NDAA FY 98.

*a.* All Army ACOMs, ASCCs, and DRUs will report the funding executed to accomplish depot-level tasks designated or coded as D or L, regardless of source of funds or the location where the maintenance is performed. Two types of reports will be submitted to capture this data:

(1) Annual report. DOD is required by 10 USC 2466(d)(1) to develop a report to Congress 90 days after submitting the President's Budget to Congress or on or about 1 May of each FY for each of the Armed Forces (other than the Coast Guard) and each Defense Agency on the percentage of funds that were obligated or planned for obligation during the prior FY, current FY, and budget year for the performance of depot maintenance and repair workload by the public and private sectors. The DCS, G–4 (National Maintenance Division) will prepare and issue a data call with supplemental instructions for the completion of the annual 50/50 report no later than 15 December.

(2) Quarterly report. ACOMs and other reporting activities are required to develop a DMWD quarterly report to the DCS, G–4 (National Maintenance Division) on or about the first working day of May, August, and November. Similar to the annual report, the AMC DMWD quarterly report will be a compilation of LCMC reports with each LCMC report prepared at the LCMC level and representing the consolidated data between the AMC LCMCs and the program executive offices they primarily support, as well as all NMP, SRA, and/or OTR workloads. The Joint program executive office for chemical biological defense, the program executive office for Enterprise Information Systems, and the program executive office for Army Simulation, Training and Instrumentation will report directly to DCS, G–4 (DALO–MNN).

*b.* Amounts obligated for the performance of depot-level maintenance and repair workload by non-Federal Government personnel at a Center of Industrial and Technical Excellence under any contract will not count for purpose of applying the percentage limitations to 10 USC 2466(a) if the personnel are provided by private industry or other entities outside the DOD pursuant to a public and/or private partnership.

*c.* Depot maintenance carryover is that portion of the maintenance program that is not completed during the year of obligation and, therefore, carried into the subsequent FY for completion. It must be executable for all customer and work processing codes.

*d.* Carryover is inherent in any production or manufacturing process and is required to provide production stability and continuity during the transition between FYs.

*e.* The U.S. Army Materiel Command (USAMC) will establish internal controls to ensure LCMCs and Organic Industrial Base (OIB) activities comply with current guidance in DOD Financial Management Regulations (FMR) 7000–14, Volume 11A, Chapter 3. This guidance includes:

(1) Orders accepted should be specific, definite, and certain as to the work and terms of the order.

(2) Certification that the funds cited on the order are properly chargeable for the purposes cited in the order.

(3) Project orders must serve as a bona fide need in the FY for which the project order is issued and determined that the order is not reasonably severable between FYs. Multiple year appropriations may be obligated for requirements that constitute bona fide needs of the multiple-year period of availability for the appropriation.

(4) Work must be expected to begin within a reasonable time after acceptance (usually within 90 days) and completed within the normal production period for specific work orders. If the funded order cites an appropriation that expired for obligation on September 30th and the work does not begin, or is not expected to begin before January 1 of the following calendar year, then the project order funds must be returned to the customer. If the performing activity commander documents that the delay is unavoidable and could not have been foreseen at the time of project order acceptance, and that documentation is retained for audit review, then the project order can be retained and executed.

(5) Project orders must not be issued for the primary or secondary purpose of continuing the availability of appropriations.

*f.* The USAMC will direct the LCMCs and the OIB activities to establish processes and procedures, to include specific managerial approval processes, for analyzing and accepting new orders. These processes and procedures should increase the probability of successful execution with the goals of improving production efficiency and reducing carryover. At a minimum, the processes and procedures must meet the following criteria:

- (1) Skilled labor is available, to include adequate labor hours available with the required skills, to execute the overhaul of the programs.
- (2) Parts, to include sufficient stock, are on hand or on order to complete the program schedule on time given the required depot overhaul factor and scrap rates.
- (3) Tools and equipment are on hand or on order, to include all required special tools, fixtures, jig, and stands.
- (4) Processes, to include approved technical data, documented internal processes and capacity are available to complete the work.
- (5) Requirements are understood, to include the required depot production, impact of backorders, average monthly demand, potential surge requirements and alternate source of repair.
- (6) Funding is available to adequately support the production.

#### **5–4. Organic Industrial Base Execution Council responsibilities**

The OIBEC is responsible for—

- a.* Providing management oversight of the integration and execution of inter- and intra-ACOM depot maintenance and manufacturing programs, to include sponsored and funded workloads for the organic Army maintenance depots and manufacturing arsenals, program executive offices, RC, inter-Service, and the ACOMs' contractor and organically operated "depot-level tasks" performed at the field maintenance level.
- b.* Developing and measuring strategic level indicators, metrics, and/or parameters to ensure Army organic industrial base enterprise goals and objectives are met. This effort will be consistent with all statutory, regulatory, and Army strategic readiness system requirements.
- c.* Recommending organic industrial base program policy changes as appropriate to the Army OIBCB.
- d.* Recommending to the Army OIBCB the "right-sizing," that is, the capabilities and capacity, of the organic Army maintenance depots and manufacturing arsenals, as well as the Army's contractor and organically operated depot maintenance-type activities at the field maintenance level, based on valid workload and core requirements.
- e.* Establishing and maintaining a long-term Army Organic Industrial Base Strategic Plan for Army OIBCB approval. The Organic Industrial Base Strategic Plan will be reviewed and/or revised accordingly on an annual basis.
- f.* Serving as the Steering Committee for DMOPS. As such, the OIBEC will establish and oversee a DMOPS Working Group to define and prioritize requirements, establish policies, and develop business rules for DMOPS. The OIBEC will receive quarterly updates from the DMOPS Working Group.
- g.* Identifying the requirement for, overseeing, and recommending funding for the development of "decision support tools," such as DMOPS, in order to assist the Army OIBCB and OIBEC in fulfilling their responsibilities.
- h.* Meeting monthly or quarterly as necessary and reporting to the Army OIBCB at a minimum of two times a year. The OIBEC will also support Army OIBCB meetings that may be scheduled as required to resolve issues that cannot be deferred until a quarterly Army OIBCB meeting is held.
- i.* Reviewing, streamlining, and/or consolidating all statutory, regulatory, and internal reports to improve the timeliness, accuracy, and utility of the information collected and analyzed, and to identify overlap, gaps, and eliminate duplicative tasking orders and reporting requirements.

#### **5–5. Depot maintenance core capability**

- a.* Core is the capability maintained within DOD organic depots to meet readiness and sustainability requirements of the Army weapon systems that support the Joint Chiefs of Staff (JCS) contingency scenario(s). The MATDEV must develop the capability to repair new weapon systems identified as requiring core logistics capability at GOGO facilities within 4 years after achieving initial operational capability. Core depot maintenance capabilities will comprise only the minimum facilities, equipment, and skilled personnel necessary to ensure a ready and controlled source of required technical competence.
- b.* Core logistics workload required for maintenance of core logistics capabilities must be performed at GOGO facilities of a military department. Performance of core logistics workload will not be contracted out to non-Government personnel.
- c.* Weapon systems, equipment, or components designated as mission essential, but not needed to sustain core capability, may be maintained in the private sector if the required capability can be provided with acceptable risk, reliability, and efficiency.
- d.* AMC will use the DOD standard methodology to determine required depot maintenance core capabilities and the workload needed to sustain these capabilities on a biennial basis (see app F).
- e.* Core capabilities and the workload required to support these capabilities will be reviewed every 2 years or more frequently, as required.

*f.* Per AR 70–1, the core analysis and accompanying risk analysis will be presented at the Milestone B ASARC or equivalent review for acquisition category II and below programs and documented in the Milestone B organic industrial base.

*g.* The PMs are encouraged to develop joint Government and industry relationships known as depot partnering arrangements for accomplishing depot maintenance. There are many types of partnerships, which may be established including work share agreements and facilities sharing arrangements. Where a decision is made to solicit industry for the performance of work that includes depot maintenance or repair of weapon systems and/or equipment, the solicitation should include language requiring public-private partnerships. PBL implementation strategies will include public-private partnerships to satisfy the requirements of 10 USC 2464 or 10 USC 2469, as applicable, and the solicitation for a PBL will include language requiring partnership with an organic entity for core (and potential noncore) workload. The benefits of depot partnering to the Government include the following:

- (1) Increased productivity.
- (2) Reduced cost.
- (3) Reduction in excess infrastructure.
- (4) Improved responsiveness to the Warfighter.

#### **5–6. Inter-Service depot maintenance support**

*a.* The joint depot maintenance program is applicable to all acquisition and logistic support activities planning, requiring, or providing depot maintenance support. The primary objective of this program is to achieve increased effectiveness through use of the combined service depot maintenance resources. This reduces redundant capabilities while sustaining essential mission support needs. Depot maintenance inter-Service support will be used and provided to the maximum extent possible.

*b.* ACOMs, activities, and organizations will seek mutually beneficial support arrangements with other Army organizations and with other Services and/or agencies when feasible and not detrimental to mission and military requirements.

*c.* ACOMs, activities, and organizations will provide support to other Services and/or agencies to the extent possible within given capabilities, and when not detrimental to the mission and military requirements, upon request.

*d.* A Joint depot maintenance support plan (MSP) will be developed by the MSCs for all cases where the same supportable materiel system is being procured for use, or being used, by two or more military Services. The Joint depot MSP will be submitted to Headquarters, AMC for approval before implementation. Each plan will—

- (1) Include an assessment of existing depot maintenance capabilities of the military Services involved.
- (2) Indicate the basic considerations for inter-Service support and how the proposed depot maintenance assignments make maximum use of existing DOD capabilities and reduce to a minimum the need for new investment in additional resources.
- (3) Indicate the planned distribution of depot maintenance workloads among the Army, other DOD, and commercial sources over the expected life of the materiel system.

#### **5–7. Depot maintenance source of repair selection**

*a.* The weapon system PM and/or PEO and the MSC will adhere to current public laws, DODDs, and Army policies in determining a depot maintenance SOR. Planning for depot maintenance SOR will commence at Milestone A. In accordance with DODD 4151.18, a logical decision process will be used to assign the depot maintenance SOR to either an Army, inter-Service, or contract source. This process must address legislative and DOD policy requirements such as core depot maintenance, the 50 percent maximum limit on contracted depot maintenance workload, and competition for reassignment of workload valued at \$3 million or greater.

*b.* To the extent legislation and policy permit, workload determined not to be needed to sustain depot maintenance core capability will be evaluated to determine whether such workload is appropriate for contracting, including contracting under full and open competition, where appropriate. The best-value (the most cost-effective alternative) depot maintenance support will be established from among inter-Service, intra-Service, and contract sources. In the case of systems and equipment used by more than one military Service or DOD agency, workload must be consolidated into a single common or joint Service contract consistent with the readiness requirements of the Army.

*c.* All new depot maintenance workload and planned changes of performance location for existing workload will be subject to a Joint Service review and SOR assignment to a specific depot facility in accordance with the provisions of the joint depot maintenance program. Changes of performance location from an organic depot-level activity to another SOR must comply with 10 USC 2469. This requires that changes in such workload with a value of \$3 million or more to be made using merit-based selection procedures for competitions among all depot-level activities of the DOD or competitive procedures for competitions among private and public sector entities.



d. The PM and/or PEO will, in conjunction with the MSC inter-Service support office, identify the requirement for the depot maintenance assignment. AMC, as the responsible office for depot maintenance, will take action to initiate the appropriate Joint Service review. AMC will track the Joint Service review to completion and will ensure all necessary inter-Service coordination actions are properly executed.

e. Upon completion of the Joint Service review and release of the Joint Service decision, AMC will notify the appropriate PM and/or PEO and MSC inter-Service support office of the implementation actions necessary.

f. Each PM and/or PEO will ensure that the decision analysis, including depot core, risk, and best value analysis, supporting the SOR decision is performed and documented in the Milestone ASARC acquisition decision memorandum. The results will be presented and/or reviewed at the Milestone B ASARC. Documentation should be updated, as appropriate, throughout the life cycle of the system.

g. The DCS, G-4 (Maintenance Directorate) will—

(1) Review and validate core logistics analysis, core depot assessment, and depot SOR documents, ensuring all elements of the core depot requirements capabilities and sustaining workload and depot SOR processes are properly addressed in each document in accordance with current DOD and Army policy.

(2) Act as DCS, G-4 representative to the Depot Maintenance Inter-Service Review.

### **5-8. Special Manufacturing Authority**

a. Special Manufacturing Authority (SMA) is defined as the authority to manufacture, modify or fabricate parts, supplies or components or other materiel within the DLA inventory beyond what is required to support depot level maintenance requirements. Headquarters, Army Materiel Command (HQAMC) may approve depots manufacturing that directly aligns with a depot's Centers of Industrial and Technical Excellence (CITE).

b. Army depots, through their assigned Life Cycle Management Command, shall request approval from HQAMC, to perform manufacturing workloads that are not directly related to an assigned repair program prior to accepting such workload. HQAMC may approve SMA for depots to manufacture such materiel when the work directly aligns with the depot's CITE designation.

c. Army depots will coordinate directly with the three primary manufacturing Arsenals through HQAMC to align manufacturing workloads to the appropriate activity as early as possible in the decision making process. The three primary Arsenals include: Rock Island Arsenal and the Joint Manufacturing and Technology Center, IL; Pine Bluff Arsenal, AR; and Watervliet Arsenal, NY.

d. Army depots will provide HQAMC, through their Life Cycle Management Command, an annual report that identifies all approved SMA for the previous FY by the last business day of each October. The report should include the details for each SMA granted, to include the monetary value of such workloads. HQAMC must provide HQDA, G4 Sustainment Maintenance Division, a copy of such report by the first business day of each November.

### **5-9. Contracting with commercial sources**

The negotiating, awarding, funding, and managing of national maintenance contracts are normally the responsibility of AMC. Included are mandatory (proprietary) type contracts and contracts for workload beyond the core workloads required in organic depots. However, a depot is permitted to negotiate, award, and administer a maintenance contract in those instances where the services of a contractor are needed to support the completion of an authorized in-house job order. This local support will not exceed 20 percent of the total dollar value of the order.

### **5-10. Reimbursable programs**

A depot repair and return program is a process whereby an item of equipment is forwarded to a depot, FRA, or contract facility for repair and the same and/or like item is returned to the forwarding activity. An MOA will be established between the customer and the depot. The rate charged to the customer will be a burdened rate to include all local installation overhead and the applicable AWCF surcharge. Depot maintenance of USAR materiel will be provided by MOU and/or MOA with Office of the Chief of Army Reserve.

### **5-11. Post-production software support**

a. Life cycle software support embraces all software-related activities for a weapon systems embedded operational software. PPSS is a subset of life cycle software support that begins with completion of the weapon system hardware production.

b. Planning and programming for PPSS begins prior to Milestone A of the weapon system. PPSS execution begins during the first FY after the hardware production of the weapon system is completed.

c. The MATDEV is responsible for all software support and PPBE activities until the weapon system hardware production is complete. The MATDEV will not transition responsibility to the supporting Life Cycle Software Engineering Center (LCSEC) until the first full FY after the hardware production lines close. Transition will not occur prior to the completion of fielding of the software for those weapon systems whose software development is not tied to a specific hardware production line.

d. When it is appropriate to transition software support Planning, Programming, Budgeting and Executing System responsibility from the MATDEV to the LCSEC prior to the end of the weapon system hardware production (to include block upgrades), the MATDEV, in coordination with the LCSEC, will obtain DCS, G-4 and ASA (ALT) approval and document the approved transition date.

## **5-12. Acceptance criteria**

A quality assurance and reliability management program will be established and maintained by each Army depot for its depot maintenance activities. Output that fails to meet standards will be scrapped, reworked, repaired, or otherwise disposed of, as appropriate. U.S. Army depots will—

- a. Ensure quality requirements are developed and documented early in the life cycle of the weapon system.
- b. Establish cost-effective quality assurance procedures that assure product quality and reliability in maintenance shops.
- c. Provide a capability for independent and objective assessment of the quality and reliability of depot maintenance output.
- d. Ensure that only depot maintenance output that meets quality and reliability standards is distributed.

## **5-13. Planning, programming, budgeting, and execution of depot maintenance workload**

### *a. Planning.*

(1) A flexible depot maintenance base capable of expansion to react to emergency military needs will be established and sustained. Depot maintenance support will be planned and completed by the combined use of Government and commercial sources.

(2) An organic depot maintenance capability (including trained personnel) will be established and sustained on the basis of workloads generated by those weapon systems and materiel that are essential to completion of the Army's primary roles and missions. This capability will be sized to workload as forecasted in the Army Workload and Performance System, will maintain surge capacity, and will sustain the reconstitution capabilities. These capabilities include initial surges of 180 days mobilization, emergencies, and maintenance support to commands with mission essential materiel. DOD 4151.18-H will be used to determine the capacity of depot-level activities.

(3) Workload will be based on expected returns and demands as well as validated performance standards. Where such standards have not been developed or are not available, historical performance data will be used. When neither performance standards nor historical performance data are available, engineering projections developed during maintenance support planning will be used. Workload standards will be adjusted based on changes in any capacity or as production data matures.

(4) Resource planning for depot maintenance manpower, floor space, and plant equipment will provide for the efficient accomplishment of all depot materiel maintenance programs.

### *b. Programming and budgeting.*

(1) Requirements determination will be based on information from the Army Long Range Development Plan, Army acquisition objective, initial issue quantity (IIQ), equipment modernization and fielding plans, demand history, field operating costs, readiness factors, and other appropriate sources. Force structure, operating tempo, flying hours, equipment retirements and phase outs, and prior program and budget guidance and decisions should also be considered. Items that are scheduled to be removed from the inventory within 2 years will not normally be considered for overhaul. Modification efforts requiring depot maintenance prior to application of the modification and/or conversion kit will be programmed in conjunction with existing overhaul and repair schedules.

(2) Prioritization of depot maintenance end-item requirements, including PPSS, will be in accordance with the latest DCS, G-3/5/7 prioritization guidance. To obtain a copy, requests should be forwarded to the DCS, G-3/5/7 (DAMO-CIR), 400 Army Pentagon, Washington DC, 20310-0400. Repair of secondary items will be given highest priority.

(3) All customers of depot maintenance, regardless of source of funds, appropriation, or SOR, will program requirements for the current year, one budget year, and five out-years for the POM submission. Any requirements entered in DMOPS should also be entered into LMP where applicable. For programming and funding purposes, requirements must be submitted into the DMOPS during the first POM after the initial requirement is identified by the customer, but no later than the last POM window prior to the required year of execution. For example, a depot maintenance customer determines in first quarter FY 09 that there is a projected requirement in FY 13 for depot maintenance of a specific end item. The requirement should be submitted into DMOPS during the FY 11-15 POM (in FY 09) but no later than the FY 13-17 POM update (in FY 09). For execution of requirements, the customer should plan to identify the requirement to the appropriate

commodity command not later than the end of the first quarter in the year of execution. When entering requirements in LMP, current year and one-year schedules should be loaded, as a minimum, in monthly buckets. The remaining 5 years should be loaded as a minimum, in quarterly buckets.

(4) Depot maintenance requirements and their respective funding will be regularly updated to maintain balance between workload programs and approved depot maintenance resources.

(5) Automated management information systems will be used to the maximum extent feasible so that the determination and distribution of workloads may be completed in an effective and timely manner and to efficiently manage program execution.

c. Post-production software support programming and budgeting.

(1) For planning and programming purposes, a system will not transition into the PPSS phase of its life cycle until the first full FY after the weapon system hardware production is complete. For those weapon systems whose software development is not tied to a specific hardware production line, transition will not occur prior to the completion of fielding of the software.

(2) The MATDEV will plan, program, budget, and execute all mission-critical computer resources weapon system software support requirements until the transition of PPBE process responsibilities from the MATDEV to the designated LCSEC is completed. The MATDEV and LCSEC will plan and coordinate PPSS with appropriate matrix support elements in order to synchronize the support needed for PPSS. Once the transition is complete, the LCSEC will assume all PPBE process responsibilities for the PPSS of the weapon system.

(3) Procurement and/or research, development, test, and evaluation funds will be used for all software support requirements until the weapon system hardware production is completed or in support of significant modifications. OMA funds will be used for software support after the weapon system hardware production is complete. OMA dollars will be planned and programmed by the MATDEV in coordination with the LCSEC through the POM until the first FY OMA funds are used. The MATDEV will use the system MDEPs to program and budget all software support prior to transition into PPSS. After that, the LCSEC will plan, program, budget, and execute PPSS requirements.

(4) Total system program funding (such as hardware and software) will be balanced to attain maximum battlefield functionality. The MATDEV MSC and LCSEC will jointly review the system's programmed requirements and funding across all appropriations and ensure the funding profile is sufficient and in compliance with HQDA financial policy to maintain visibility of both PPSS and system hardware requirements and funding.

(5) PPSS requirements will be defined as the level of effort necessary to retain the minimum essential capabilities of the system fielded (this means do no more than keep the system that was fielded operational), correct operational defects, and maintain minimum battlefield functionality. Include funding for retention of a software engineering capability.

(6) LCSEC core costs are not to be distributed as part of the system PPSS cost.

(7) Commercial off-the-shelf (COTS) software may become a PPSS funding consideration only if the weapon system uses commercial computer hardware or software that has been modified, the software is embedded and cannot be vendor updated, or the software has a life cycle of greater than 5 years.

d. Deferred maintenance and financial reporting.

(1) Procurement request order numbers for depot-level deferred maintenance will be recorded in DMOPS at priority 155 (deferred maintenance).

(2) The Federal Accounting Standards Advisory Board requires the DCS, G-4 to provide supplemental information on deferred maintenance as part of the Army's financial statement. Army financial data will be submitted not later than 10 days after the FY ends. Army will disclose in a financial statement the materiel amounts of unfunded deferred maintenance on the national level, deferred field maintenance, and unexecutable deferred maintenance on property plant and equipment.

(3) The FASAB defines generally accepted accounting principles for the Federal Government and defines maintenance as the act of keeping fixed assets in acceptable condition. This includes all activities needed to preserve the asset so that it continues to provide acceptable services and achieves expected life.

(a) However maintenance excludes activities aimed at expanding the capacity of the asset or otherwise upgrading it to serve needs different from, or significantly greater than those originally.

(b) FASAB further defines deferred maintenance as maintenance that was not performed when it should have been or was scheduled to be and which, therefore, is put off or delayed to a future period.

(c) The consequences in underfunding maintenance include increased safety hazards, higher cost in the future, and inefficient operations. Therefore, reporting deferred maintenance estimates in financial statements is intended to provide reliable information; on the condition of weapons systems.

(d) The DOD FMR requires the DCS, G-4 to develop a budget exhibit depot maintenance plan (PB-45) using the PB-45 budget reporting process. Army personnel responsible for compiling and reporting deferred maintenance will disclose required unfunded maintenance supplemental information on weapon systems using the PB-45 budget report.

(4) The Statement of Federal Financial Accounting Standards No. 6, “Accounting for Property, Plant, and Equipment,” defines two acceptable methods of measuring deferred maintenance: the condition survey method and the life cycle costing method. Condition assessment surveys are periodic inspections to determine the current condition of assets and estimates of the cost to correct deficiencies. The life cycle costing method considers operating, maintenance, and other costs in addition to the acquisition costs of the assets.

(a) The DOD FMR allows the DCS, G-4 to report deferred maintenance on its weapon system through the use of the cost assessment survey. The survey is based on the condition of reportable assets, life cycle forecast of cumulative deferred maintenance, or other methods as long as the accounting method is adequately described in the financial statements.

(b) When reporting deferred maintenance, unexecutable deferred maintenance scheduled to be completed in future years must be addressed.

(c) Cost assessment of depot-level maintenance requirements are completed annually for weapon systems and related support equipment. The cost assessments are based on condition assessments, scheduled recapitalization, and other special depot maintenance programs that may involve reconstitution of the force.

#### **5-14. Mobilization planning**

a. Requirements identified specifically for mobilization, surge, or reconstitution purposes will be separately identified to prevent mixing of mobilization requirements with normal maintenance requirements.

b. Maintenance mobilization workload requirements include cyclic, normal overhaul, rebuild, battle, crash damage overhaul, rebuild, activation of items taken from long-term storage, modifications, fabrication and/or manufacture, reclamation and/or disassembly, and maintenance assistance (support for deployed and deploying units).

c. A depot maintenance mobilization plan will be developed and include major and secondary items, ARNG and USAR requirements, inter-Service and interdepartmental orders, and essential contracts.

d. Depot maintenance mobilization secondary items requirements will be forecast per the mobilization schedule.

e. The principal for the agent’s commitment at the time of the initial depot maintenance ISSA will project inter-Service maintenance mobilization requirements. Negotiated depot maintenance ISSAs will remain in effect after the date of mobilization.

f. Mobilization requirements to support allies will consist of continuation of agreements in effect on date of mobilization. Unless more specific information is available for a particular program, depot maintenance workloads generated through international logistics for those engaged or mobilized countries will increase at the same rate as a comparable Army item during a period of mobilization.

g. Closed loop support procedures will be implemented for critical items for which production cannot satisfy mobilization demands (see AR 710-1). Closed loop support programs will be identified with the appropriate management interest item code.

h. Repair and/or overhaul MELs will be relaxed or eliminated.

i. Plans will be reviewed at least every 2 years in conjunction with the core computation process.

j. Depot maintenance mobilization plans will include the following:

(1) Depot maintenance mobilization requirements for materiel that is not the responsibility of AMC but is accomplished in CONUS depots.

(2) Requirements in terms of man-hours, skills, and support equipment required by deploying and deployed units. AMC will coordinate with FORSCOM in identifying these requirements.

(3) Requirements in terms of man-hours, skills, and support equipment required for reconstitution of equipment based on increased operational tempo, equipment availability data, and defense guidance.

(4) A depot maintenance mobilization workload (DMMW) distribution plan developed using mathematical modeling techniques. The techniques used should provide for a gradual post mobilization buildup from peacetime to full capacity within 6 months after mobilization. This technique will incorporate the requirements to reconstitute force structure capabilities at the end of conflicts based on timeframes identified in the defense guidance.

(5) To identify DMMWs in excess of capacity (see AR 700-90), DMMW will be initially assessed against core capability and capacity (see AR 700-90). If DMMW is less than core capability, core will be reassessed using approved methodology. DMMW in excess of organic capacity and beyond the capability of all depots will be assigned to an alternate source.

#### **5-15. Depot maintenance plant equipment**

a. Depot maintenance plant equipment (DMPE) requirements will be identified in the depot maintenance support plan (DMSP) for all new equipment entering the Army inventory that will require DLR in DOD depots. DMPE may consist of items on hand not requiring modification, on hand requiring modification or adapters, and new equipment.

b. MATDEVs will ensure that required DMPE capability is developed and/or procured for new weapon systems to coincide with the generation of the first reparable assets.

c. AMC is responsible for coordination to assure DMPE is available at the maintenance activity to support assigned depot maintenance programs. The programs will be based on requirements developed during programming and budget cycles.

d. An annual commitment for DMPE will be established against the AWCF and programmed DMPE projects.

e. Depot manuals will be acquired and/or prepared for DMPE. Maximum use will be made of COTS manuals as prescribed by AR 25–30.

## **5–16. Training**

a. AMC will provide maximum support to the ARNG and the Army Reserve training at AMC installations and/or activities at minimum cost to RC units. Identifiable incremental costs for installation support furnished to the RC in support of active duty for training or IDT are reimbursable per AR 5–9. Incremental costs are only those costs that would not have been incurred had the unit not been supported.

b. Depot and/or depot activities will—

(1) Provide advice and technical assistance in support of the premobilization training of assigned RC units to improve their training level, overall readiness, and mission capability. RC units may also be in an affiliation status with their depot and/or activity.

(2) Participate in the AT scheduling process for RC units and be given priority for training dates at all AMC installations.

(3) Coordinate required training assistance and support with the Army Reserve and National Guard Bureau (NGB).

c. RC units will—

(1) Develop plans for accomplishing designated depot and unit mission tasks.

(2) Train at designated AMC installations a minimum of 1 year out of each 3 while assigned to AMC depot.

(3) Periodically exercise plans developed for employment when the unit conducts training at the depot and/or depot activity it will augment upon mobilization.

d. AMC will allocate not more than 10 percent of its potentially contractual cargo and/or equipment movements as training opportunities for USAR and/or AC transportation and related troop units. Hazardous cargo movements will also be included as RC training opportunities.

## **5–17. Aviation depot maintenance round-out units**

a. The Aviation Depot Maintenance Round-out Unit (ADMUR) Program consists of four theater aviation sustainment maintenance groups (TASMGs) and the Headquarters, ADMUR. Respective State adjutant generals operationally control the four TASMGs and the Headquarters, ADMUR during garrison operations with direct doctrinal and operational guidance from the NGB Aviation and Safety Division. TASMGs perform back up field and sustainment-level maintenance on ARNG aircraft and components in support of the ARNG Army Aviation Support Facilities. Performing NMP work, SRAs, and OTRs maintains required skill sets, as well as supports the ARNG aviation aircraft fleet. The Headquarters, ADMUR is responsible for mobilization planning and coordination with AMCOM and AMC to include specialized training and classification missions in support of AMC. Headquarters, ADMUR, in conjunction with AMC and AMCOM is responsible for controlling, maintaining, refurbishing and new procurements in support of the Theater Aviation Maintenance Program (TAMP) equipment package.

b. When mobilized, AMC may direct that the TASMGs perform surge workload at home station. AMC may direct the TASMGs in whole or in part to augment CONUS depots or to send teams to support mobilization and deployment of aviation units from CONUS installations. AMC may also mobilize the TASMGs, as well as the Headquarters, ADMUR (to be converted to a TASMG Headquarters & Headquarters Detachment) and deploy them to augment AMC forward commands in the area of operations. The TASMGs will operate the TAMP when deployed to an area of operations (AOR). The TAMP equipment package is a like set of equipment (that each TASMG has and operates) that will deploy forward to be used and operated by the TASMG personnel during deployments. The TAMP equipment package plus the sustainment level skills of the TASMG personnel provide the aviation sustainment capability forward at the TAMP. The TAMP equipment package is deployable, but not mobile once set up in Theater, the TAMP becomes a fixed base operation. The TAMP equipment requires a cement floor or transportable maintenance facilities in order to secure and calibrate the equipment.

c. The TASMGs and Headquarters, ADMUR units remain under the command of their respective State adjutant generals during pre-mobilization. AMCOM assumes command and control of the mobilized units or teams when the unit or team arrives onsite (for example, CONUS depot). If the Headquarters, ADMUR and or TASMGs deploys in whole or part, the AMC forward command assumes operational control when the unit arrives in theater. The Headquarters, ADMUR will perform the mission of the fifth (rotational) TASMG Headquarters with military and contractor maintenance support, if

required. During mobilization, the TASMGs provide AMC with an employable mobilization surge workload capability for depot-level classification and repair of aviation materiel.

*d.* AMCOM will—

(1) Establish formal mobilization planning, work loading, programming, and training guidance to include unit mission, mobilization station, and related subordinate command responsibilities; premobilization training; and evaluation and training exercise participation.

(2) Establish training criteria for and evaluate the training of the Headquarters, ADMRU and TASMGs. Periodic evaluations will be designed to measure mobilization readiness in aviation logistics support, mobilization planning system, operations, training, safety, and administration as a minimum. Coordination of evaluation schedules with the respective State adjutant generals will be accomplished before each FY.

(3) Establish mobilization-training objectives based on wartime missions and/or workloads.

(4) Provide guidance and assistance to Headquarters, ADMRU and TASMGs in implementing the Army training management system.

(5) Provide management guidance necessary to enhance Headquarters, ADMRU and TASMGs mobilization readiness through training together with the CNGB.

(6) Provide necessary resources for peculiar training requirements as funds are available and identify and assist in securing resources not available in peacetime channels but required for special depot-level training to meet mobilization requirements.

(7) Provide necessary equipment and subject matter experts as required and as funds are available.

(8) Provide highly qualified aircraft maintenance personnel to Headquarters, ADMRU, and TASMGs, on request, to perform onsite training and assistance.

*e.* Headquarters, ADMRU and TASMGs will be prepared to deploy within 30 days of mobilization. The Headquarters, ADMRU and TASMGs will also be prepared to augment CONUS depots within 30 days of mobilization.

(1) In case of full mobilization, from the day of mobilization to M+90, the remainder of the CONUS TASMGs clears in-house workload and provides depot assistance to the deploying FORSCOM forces.

(2) At M+91 day and until termination of mobilization, the CONUS Headquarters, ADMRU and TASMGs perform the assigned AMC mobilization workload in support of the national aviation pipeline.

## **5-18. Army field support brigades**

AMC has established forward commands in theater. They are AMC-Southwest Asia, AMC-CONUS, AMC-Far East, and AMC-Europe. During operations, AMC may augment the forward commands with a combination of military, DA civilian, and contractor personnel. The mission of the augmented command is to enhance unit readiness by bringing U.S.-based technical capabilities and resources to the battlefield. AMC can tailor the command to fit the situation. Standard missions include logistics assistance, sustainment maintenance, oil analysis, calibration of equipment, ammunition surveillance, release of APS, materiel fielding, and technology insertion. The AMC forward commands will work in coordination and cooperation with the DLA contingency support team.

## **5-19. Reclamation at the national level**

*a.* AR 710-1 contains the policy and procedures for controlling the reclamation of Army-managed equipment at the national level. Reclamation is the process of removing required serviceable and economically repairable components from potential DOD excess or surplus property. These parts are returned to the proper supply activity for future requirements. Residue is processed as disposable property.

*b.* The commander of each LCMC will establish and fund controlled reclamation programs.

(1) Depots with maintenance missions and/or contractor reclaiming sites will perform the task of dismantling end items to obtain component parts.

(2) Depot reclamation work breakdown structure (WBS) numbers will be classified as priority or routine. Priority reclamation procurement request order numbers (issue priority designators 01-08, used to meet priority requirements) will take precedence over a maintenance program with an equal or lower priority. Routine reclamation orders will be scheduled according to assigned priorities of depot workload.

*c.* Materiel managers at the LCMCs will prepare save lists, with appropriate narrative, for items to be recovered and will forward the lists to the recovery program control officer at the depot performing the recovery operation. Repairable recovered items may be exempted from MEL control if required for high priority programs and there is no practical alternative SOS. Exemption will be noted on the save list.

*d.* Depot commanders will designate a recovery program control officer responsible for the coordination of all reclamation programs with LCMCs and within the depot and the resolution of any problems. The recovery program control officer will—

- (1) Establish and maintain the current status and suspense file on all reclamation programs.
  - (2) Ensure that sufficient quantities of the major items and/or assemblies are on hand.
  - (3) Close out the reclamation programs only after supply has verified that the receipt action is complete.
- e. Only the cost of the reclamation actions will be charged against the reclamation maintenance procurement request order number.
- f. Quality assurance procedures will be instituted to—
- (1) Inspect and classify removed components as serviceable, unserviceable repairable, or uneconomically repairable.
  - (2) List missing assemblies and/or components or shortages from major items in the recovery operation other than those identified as recovered.
  - (3) Inspect and reclassify the major item on which reclamation was performed.

## **5–20. Bill of material for materiel requirements planning**

a. Bill of material. A bill of material (BOM) is the formally structured list of basic parts and materiel contained in equipment weapon systems, their components and/or assemblies, depending on the type of BOM. The primary purpose or function of BOM, in the maintenance sustainment process, is to provide the official basis to identify and determine material requirements and shortages (planned or actual) as a result of the materiel requirements planning (MRP). The MRP process works to ensure the correct repair parts and components are identified and available to meet the maintenance, repair, overhaul, or fabrication schedule while maintaining the lowest possible level of materiel on hand. LCMCs are to ensure that current BOM and other updated technical and/or engineering data are the basis for MRP and long-term decision-making in support of DMWR and WBS actions.

b. BOM for LMP and/or enterprise resource planning (ERP) LCMCs and their maintenance depots, together with other planning factors.

(1) Manufacturing BOM is a listing of all of 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 bill of material, including single-level BOM and multilevel BOM.

(2) Remanufacturing bill of material (RBOM) is a listing of all of 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 and/or replacement 50 percent of the time, therefore the quantity in the RBOM parent assembly for part A is set at .5 each). Depot parts managers are responsible for updating the depot overhaul factors in BOM upon completion of maintenance programs.

(4) An MPS is a manufacturing plan that quantifies significant processes, parts, and other resources in order to optimize production, to identify bottlenecks, and to anticipate needs and completed goods. Since an MPS drives much factory activity, its quality dramatically affects a factory's profitability. Typical MPSs are created by software with significant user input and tweaking. Due to software limitations, but especially the intense work required by the "master production schedulers," schedules do not include every possible aspect of production, but only key elements that have proven their control effectively, such as working hours, machines, available storage, and parts supply. The choice of what to model varies among companies and even among factories. 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 multilevel optional component scheduling environment. Using MPS helps avoid shortages, costly expediting, last minute scheduling, and inefficient allocation of resources. Working with MPS allows businesses to consolidate planned parts, produce master schedules and forecasts for any level of the BOM for any type of part.

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

## 5–21. Repair parts support

*a.* Army depot maintenance activities performing DLRs 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, (for example when to fund a parts requisition for the various types of OMA and AWCF and what type program each should pay for) are contained in AMC Resource Management Policy. These materials, when on hand at depot maintenance activities, are not available for redistribution until identified as excess to production requirements by the depot commander.

*b.* To determine the repair parts necessary to support the maintenance of programmed reparable assets, the LCMC and depot will review the depot maintenance forecasted requirements for the FY plus 3 out-years. Range and quantity of repairs parts forecast will be determined through the ERP parts explosion process. Requisition and/or procurement action will be initiated sufficiently in advance of the induction schedule, to take in to account all administrative and/or production lead time factors and order-ship time factors to ensure parts sufficiency for successful and on-schedule completion of the depot's and their customer's requirements. The ERP special program requirements process will be run quarterly. This process provides the capability for forecasting repair part requirements for depot-level and cross-service maintenance programs to DLA and the Army.

*c.* The ERP's repair parts forecasting process captures a list of repair parts used for overhaul of reparable item 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 through out a 3 year planning horizon. The ERP special program requirements process relies on several functional areas (that is, production planners, resource managers, and materiel managers) to maintain up to date data within their area of responsibility.

*d.* After ERP's 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. Special program requirements forecast piece parts requirements that will support depot production planned for the next three years. Any rejects from this process needs to be manually reviewed by LCMC personnel.

*e.* The LCMC's demand planners for the repairable materiel and industrial facilities' production planners will coordinate with other Army material managers, and/or other Services, DLA, or General Services Administration (GSA) supply planners, as applicable, to ensure that repair part requirements are being sourced to support the projected and/or planned maintenance program. Coordination will include 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. When depot overhaul factors are updated these buys and/or fabrications should be considered in depot overhaul factor consumption rates.

*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. LMP and/or ERP systems consider both types to be material, define as those stocks or items used to support production (raw materials and work-in-process items), supporting activities (maintenance, repair, and operating supplies), and customer service (finished goods and spare parts).

(1) Material charged to overhead and prorated across programs (bench stock). This material is low-cost, high usage, common-usage, consumable items used by maintenance personnel at an unpredictable rate. Additionally, this stock includes items such as common hardware, consumable tool parts (such as cutting blades and drill bits), electric and/or electronic piece parts, bulk materials (such as tubing, sheet metal, and wire), and repair kits composed of consumable materiel.

(a) Depot maintenance activities are authorized to stock up to 7 workdays of bench stock in the work area.

(b) Bench stocks are stored at or near the work area to give repair personnel direct access.

(2) Materials charged directly to programs. Materials charged directly to programs comprise 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).

(a) Materials can be consumable or nonconsumable.

(b) Materials are typically not stored in the work area and are staged in other controlled access facilities.

(c) Requisition actions will be directly driven by the depot production schedules. The LCMC will ensure the depot commander assigns a single point of management and control that will maintain stockage levels and be responsible for the planning and control of materials for all maintenance and fabrication programs. When an oversupply exists, the single point of management and control will take action to reduce or redistribute the excess stock.

(d) A single point of management and control will review stock levels quarterly. The review is to ensure: sufficiency of material to support production within a 360 day period for AMC maintenance depots, the proper handling of excess and/or 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 customers.

(e) 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 and/or not restricted to a specific program) requirement basis.

1. Stock will be maintained in unrestricted inventory status and will not be assigned to a specific program until consumption (that is, until the shop floor (performing work center) is ready for the stock and the stock is issued to the specific program).

2. The ERP system's fully integrated capability (and industry best practice methodology) to manage stock across all inventory accounts and to balance demand and supply actions will be used.

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

4. The Industrial Facility's Industrial Business Office will review the messages and take action 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:

- a) Cancellation of planned procurement actions and purchase orders where possible.
- b) Possible return to supplier for credit.
- c) 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."

## **5-22. Depot maintenance reporting and recording**

All applicable documents and records will be processed in accordance with DA Pam 750-8 during depot maintenance. Special attention should be paid to the requirements for submitting DA Form 2408-9 (Equipment Control Record). Government contractors are required to report work order information for sustainment maintenance reset contracts to Army Maintenance Systems as directed by DCS, G-4. Personnel preparing maintenance contract requirements packages will ensure that the provisions of this regulation are included in all applicable maintenance contracts.

## **Chapter 6 Commodity-Oriented Maintenance Policies**

### **Section I**

#### **Combat Vehicles**

### **6-1. Sustainment maintenance**

Combat vehicles will be selected as candidates for recapitalization and overhaul during peacetime under the Combat Vehicle Evaluation Program. ACOMs, ASCCs, and DRUs will report combat vehicles requiring depot maintenance support to, and receive disposition instructions from, the appropriate commodity command. Selection criteria for equipment:

a. Combat vehicles reaching a mileage or hour interval prescribed by AMC will be inspected by depot-level teams to identify vehicles requiring overhaul. Only the vehicles meeting the scoring criteria will be directed for return to an AMC depot. A copy of the evaluation will accompany the vehicle when it is sent to an overhaul facility. Approved repair candidates will be scheduled and turned in to depot maintenance shops per the Combat Vehicle Evaluation Program (see para 4-8 for transfer/turn-in standards).

b. Combat vehicles that do not yet reach the prescribed mileage or hour threshold but are considered to be overhaul candidates by the user ACOM, ASCC, and DRU may be nominated by the ACOM, ASCC, and DRU for evaluation by the teams.

c. Combat vehicles requiring extensive modernization or recapitalization in a depot facility may be inducted without benefit of the combat vehicle evaluation. These vehicles will be overhauled and/or rebuilt to a like-new condition in conjunction with the modernization or recapitalization DMWR, NMWR, or scope of work.

d. When a replacement item is not available and the depot cannot overhaul and return it to user, the ACOM, ASCC, and DRU commander can authorize units to continue using the item at a low priority and/or low usage rate until a replacement is available.

## **6–2. Army National Guard sustainment maintenance**

*a.* All depot maintenance for ARNG end items (except aircraft) will be on an exchange or repair-and-return basis. Surface equipment that requires unscheduled or urgent depot repair will be reported to NGB–Maintenance Office for consideration on a case-by-case basis. Army surface equipment will be selected for depot repair under the following criteria:

(1) All major end items that are type-classified standard and meet condition requirements as determined by the commodity command concerned.

(2) All major end items type-classified standard in an unserviceable condition beyond the capability of sustainment maintenance.

(3) Major end items that have a record of frequent maintenance failure requiring extensive repairs and for which the repair of recurring failures, if overhauled at a depot facility, would be cost effective.

(4) Combat vehicles will be selected for depot repair on a condition basis (not on mileage) when TI by sustainment maintenance indicates that depot repair is in the best interest of economy and readiness.

(5) Towed and self-propelled artillery weapons, mortars, and recoilless rifles will be selected for depot repair per TMs.

*b.* The following will be provided for current year requirements:

(1) The NGB Logistics Maintenance Branch will provide the commodity commands with the DD Form 448 (Military Interdepartmental Purchase Request) for major end items and calibration services and/or repair support.

(2) Calibration services and red tag repair of TMDE will be funded by the NGB and provided by the Army TMDE activity to the States.

(3) A schedule for depot work input will be provided to each State concerned. The State will prepare a DA Form 5990–E/DA Form 2407/DA Form 2408–13–3 to the designated depot with necessary shipping documents. The State will retain ownership of the item during the entire repair-and-return process, or the item may be exchanged. Transportation costs of a major item to and from depots will be coordinated by NGB Army Logistics Division.

(4) Reconditioning and repair of combat vehicle tracks and road wheels and related rubber products will be funded directly by the NGB.

(5) For repairs and/or services for nonmajor items that are to be provided through the AMC depot system, requests for secondary items and fuel tank recoating will be processed as follows: States requiring field-level or sustainment-level maintenance assistance will request such support from the commodity command having responsibility for the item. If they need aviation field support, they should request assistance through NGB–AVN or their regional Aviation Classification and Repair Activity Depot (AVCRAD).

## **Section II**

### **Army Aircraft**

## **6–3. Functional responsibilities, program objectives, and maintenance support concept**

*a.* The functional responsibilities of the Army aviation maintenance activities are to—

(1) Provide safe, reliable, and FMC aircraft to the user.

(2) Sustain materiel in an operational status and/or restore equipment to a FMC condition.

(3) Enhance or upgrade aircraft functional usefulness through MWO, materiel change, and product improvement.

*b.* The program objective of Army aviation maintenance is to provide robust modular maintenance and logistics support to aviation weapon systems end item users. This includes but is not limited to repair of airframes, engines, aircraft subsystems, avionics, communications, navigation, aircraft survivability equipment, aerial weapon systems, fire control and/or fire direction items, and other airborne mission equipment packages necessary to support the total aviation weapon system life cycle support.

*c.* The maintenance support concept to accomplish these objectives, will transition from its current three levels of aviation maintenance to the Army Maintenance System consisting of field and sustainment maintenance levels. The Aviation Logistics Transformation Plan will restructure aviation maintenance organizations from the current three levels of maintenance, which employs redundant echelons of pass-back aviation maintenance, to tailored, robust, and mobile aviation maintenance units. This modular maintenance concept allocates personnel, tools, and equipment resources where they are most effective. This change will result in a robust aviation maintenance operation. The goal is to eliminate redundancy where possible while retaining core capabilities. These long-term efforts will culminate in significant reductions to the aviation logistics tail.

*d.* Designation and utilization of the former aviation unit maintenance (AVUM) and/or aviation intermediate maintenance (AVIM) is no longer applicable under the Army Maintenance System. Commands will not use AVUM and AVIM designations in maintenance determination and execution. Any published reference to either term, in MACs for example,

will be disregarded and the required level of maintenance will be considered field maintenance. Specific tasks will be accomplished based on MTOE sets, kits, and outfits assigned to the command and qualified personnel available to perform the required tasks. The combat aviation brigade commander has the authority to locate and assign all field-level maintenance capabilities in support of the combat aviation brigade's mission.

#### **6-4. Aviation field maintenance**

The field maintenance operation is resident in each aviation brigade.

a. An aviation support company within an aviation support battalion (ASB) is organic to each aviation brigade and will—

(1) Perform forward sustainment maintenance for selected high-value components and subassemblies under the authority of the assigned logistics engineer and or applicable MEC.

(2) Perform authorized field maintenance as defined in paragraph 6-3d that was formerly classified as unit and intermediate maintenance (current terminology in aviation TMs) in the applicable MAC.

(3) Have appropriate resources (both the personnel and equipment) to perform field maintenance.

(4) Have appropriate resources to support operational battalions with aviation support platoons.

b. The flight companies and/or flight troops and aviation maintenance companies/aviation maintenance troops will—

(1) Perform authorized field maintenance as defined in paragraph 6-3d that was formerly classified as unit and intermediate maintenance (current terminology in aviation TMs) in the applicable MAC.

(2) Have appropriate resources (both the personnel and equipment as authorized by the applicable TDA and/or table of organization and equipment (TOE)) to perform field (current unit-level tasks) maintenance.

(3) Be staffed and equipped to perform high frequency "on aircraft" maintenance tasks.

c. ASBs and/or aviation support companies and AVCRAD or Army aviation support facility will furnish mobile, responsive, one-stop maintenance support and perform all maintenance functions as designated by the MAC in materiel publications as either field or sustainment maintenance, as required.

(1) Authorized maintenance includes the following:

(a) Replacement and repair of modules and components.

(b) Repair of end items that can be efficiently accomplished with available skills, TMDE, tools, and materiel.

(2) Repair materiel for return to user and emphasize support of operational readiness requirements.

(3) Establish a program to support AMC and/or Army aviation flight activity units by repairing selected items for return to stock when such repairs cannot be accomplished at the AMC and/or Army aviation flight activity level.

(4) Inspect, troubleshoot, test, diagnose, repair, adjust, calibrate, and align aircraft system modules and components. Module and component disassembly and repair normally will be limited to tasks requiring cleaning and the replacement of seals, fittings, and items of common hardware.

(5) Determine the condition of specified modules and components removed prior to the expiration of the time between overhaul or finite life.

(6) Perform aircraft weight and balance inspections and other special inspections that exceed AMC and/or Army aviation flight activity capability.

(7) Furnish quick response maintenance support and technical assistance through the use of mobile maintenance support teams and aircraft recovery and evacuation.

(8) Furnish collection and classification services for serviceable and unserviceable materiel.

(9) Operate a cannibalization point activity under AR 710-2.

(10) Inspect, troubleshoot, test, diagnose, repair, adjust, calibrate, and alignment of aircraft system specific GSE. Of particular concern are systems required to attain and maintain an airworthiness standard as defined in AR 70-62 regardless of the GSE being a flight or nonflight capable system. Examples of nonflight GSE of concern are aircraft jacks and stands and the aviation ground power unit which provides AC and/or DC electricity, pneumatic air and hydraulic ground power to the aircraft. An example of a flight capable GSE is the unit maintenance aerial recovery kit which is used to recover damage aircraft via sling load operations. Commanders will ensure GSE is maintained and sustained to standard ensuring the safety and airworthiness of the aircraft and or systems the GSE is used with will not be compromised.

d. Maintenance functions that exceed field-level repair capability will be passed back to sustainment based maintenance activity.

e. Unserviceable repairable modules, components, and end items that are beyond the capability of an ASB and/or Army aviation support facility to repair will be evacuated to the designated sustainment base maintenance activity.

f. GSE and TMDE will be evacuated to the appropriate field or sustainment unit of action and/or ground maintenance when it is beyond the capability of an aviation support company and/or ASB to repair.

g. Calibration and repair of TMDE will be performed as indicated in AR 750-43, TB 750-25, and TB 43-180.

## **6–5. Army National Guard aviation field maintenance**

ARNG aviation maintenance support will conform to NGB policy contained in NG Pam 750–2. Army aviation flight activity and Army aviation support facilities will perform field-level maintenance actions authorized by and detailed in NG Pam 750–2. These include diagnosis, servicing, preventive maintenance intermediate, phased maintenance, special inspections, aircraft recovery and evacuation, aircraft weighing, maintaining authorized ORF aircraft, minor airframe repair, avionics, and armament repair.

*a.* Requests to exceed maintenance authority will be forwarded to the supporting AVCRAD. Requests to exceed expenditure limits (funds and/or work hours) will be forwarded to Chief, NGB (NGB–AVN–A) through the supporting AVCRAD.

*b.* A USAR aviation support facility collocated with a supported aviation support company and/or ASB unit is authorized by DCS, G–4 (Maintenance Directorate) to perform field-level maintenance using tools and/or equipment authorized to the supported unit.

## **6–6. Aviation sustainment maintenance**

The sustainment base comprises the ARNG AVCRADs or TASMGS, depots, the original equipment manufacturers maintenance and overhaul facilities, installation support activities, and AMCOM contract maintenance support. The TASMGS is the name for an AVCRAD when it deploys and receives all the additional attachments it requires to perform its wartime missions.

*a.* Army aircraft will be maintained and supported to the extent authorized in this policy and TB 43–0002–3. Army aircraft may be accepted into national base facilities for programmed or unprogrammed maintenance. Accountability will be transferred to the NICP when aircraft are accepted for programmed depot maintenance. Aircraft accepted for unprogrammed depot maintenance will normally be processed on a repair-and-return-to-user basis.

*b.* To maintain airframe life and structural integrity until recapitalization (RECAP) or retirement, Airframe Inspection Maintenance and Sustainment (AIMS) provides integrated support to the lifecycle sustainment strategy. It is overhaul maintenance to be executed on a set interval to restore aircraft to fully serviceable condition. Due to the scope and capabilities required, AIMS will be executed at AMCOM Aviation Field Maintenance Activity source of repair sites. AIMS focuses on aircraft structures and air frame components and incorporates a “Reconstitution” disassembly, in accordance with the technical procedures per the level of repair. Where required, a complete strip and paint, an airframe inspection and repair, and in some cases the application of structural upgrade kits. It is executed in accordance with aircraft technical bulletins published by aircraft PM. Unlike RECAP, AIMS does not replace existing aircraft components with zero time components. AIMS inspects all components for serviceability and repairs or replaces components in accordance with applicable technical manuals.

*c.* In peacetime, the ARNG TASMGS perform field and sustainment base maintenance in support of regional ARNG aviation assets. In addition to field and sustainment maintenance, the TASMGS performs NMP repair, limited depot airframe repair, aircraft painting, major airframe repair, depot-level component repair, and component repair and management, as directed by AMC. These functions are specifically discussed in NG Pam 750–2. Requests to exceed maintenance authority and/or expenditure limits (funds and/or work hours) will be forwarded to AMCOM.

*d.* The Aviation Depot Maintenance Program consists of depot maintenance such as aircraft recapitalization, rebuild, and overhaul, crash and battle damage repair, major airframe modifications, and on condition maintenance.

*e.* Aircraft will be selected as candidates for recapitalization and 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 NMP fielded by the NICP.

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

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

(4) Aircraft overhaul programs will be developed by AMCOM based on data, funding, and depot capability. The overhaul program will be finalized and coordinated with ACOMs, ASCCs, and DRUs. The NICP 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 depot overhaul that subsequently incur crash or battle damage will be reported to the NICP for selection of replacement aircraft.

(6) As a related program to aircraft condition evaluation, the NICP will develop data from DA Form 1352 and DA Pam 738–751 to assist in identifying possible depot maintenance candidates.

*f.* Aircraft in combat areas will be selected for depot maintenance per TM 1–1500–328–23.

*g.* 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. PEOs aviation, AMCOM, and ACOMs, ASCCs, and DRUs will

participate in the distribution conference. All conferences will be approved in accordance with current Army conference policy before committing / obligating any Army appropriated funds.

(1) The NICP 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 and/or replacement will be published by AMCOM.

*h.* Aircraft requiring crash or battle damage repair will be reported to, and disposed of, per instructions received from the NMP and/or NICP, using procedures prescribed in TB 43-0002-3.

*i.* Aircraft programmed for depot overhaul or crash and battle damage repair will have MWOs installed during the overhaul process. Aircraft requiring depot modifications that are not scheduled for depot overhaul or crash and battle damage repair will be modified by contractor or depot modification teams in accordance with AR 750-10. All modifications installed will be documented per AR 750-10. Depot modification programs for converting aircraft to later series (for example, AH-64A to AH-64D) will normally include overhaul as a part of the total program. Candidates for conversion should also be overhaul candidates whenever practicable. Conversion and modification programs will be coordinated between NICP and ACOMs, ASCCs, and DRUs.

*j.* All applicable documents and records will be processed per DA Pam 738-751 during depot maintenance. Personnel preparing maintenance contract requirement packages will ensure that the provisions of this regulation are included in all applicable maintenance contracts.

*k.* Aviation depot as defined by aircraft TM MAC or AMC agency executed maintenance not classified as field-level maintenance is sustainment-level maintenance and will only be accomplished by authorized agencies as permitted in this regulation.

#### **6-7. Army National Guard sustainment maintenance**

Aircraft that requires unscheduled or urgent depot repair will be reported to ARNG-AVL. Aircraft will be selected for recapitalization or depot repair based on rebuild induction criteria or when estimated cost of repair exceeds field-level maintenance capability. When aircraft RCFs are available at the NICP, the aircraft will be scheduled on an exchange basis. When RCF is not resourced, aircraft will be repaired and returned to the owning ARNG unit.

#### **6-8. Aircraft parts that have been exposed to fire and/or saltwater immersion**

Aircraft parts, components, or assemblies that have been subjected or exposed to fire and/or saltwater immersion will not be reused locally under any circumstance. Such items will be inspected locally, and if considered repairable, returned through maintenance or supply channels for national-level inspection and overhaul. All items that are to be condemned or returned for inspection and overhaul will require a statement on all applicable accompanying documentation, including DD Form 1577 (Unserviceable (Condemned) Tag-Materiel) or DD Form 1577-2 (Unserviceable (Repairable) Tag-Materiel), stating the item has been subjected or exposed to fire and/or saltwater immersion.

#### **6-9. Items removed from crash-damaged aircraft**

Pending the outcome of an aircraft investigation in accordance with AR 385-10 and DA Pam 385-90, extreme caution will be exercised in the reuse of items removed from crash-damaged aircraft or aircraft that have been involved in accidents. Items removed from a crashed aircraft or an aircraft that has been involved in an accident will not be reused regardless of apparent serviceability until such items have been subjected to a thorough inspection in accordance with paragraphs 6-8 and 6-10.

#### **6-10. Inspection and testing of crash-damaged components and assemblies**

*a.* All functional components and assemblies (such as engines, transmissions, pumps, valves, generators, and blades) will be inspected and tested per the applicable depot maintenance work requirement. Components not designed as overhaul items will be inspected and tested per the applicable maintenance manual. An item will either be condemned locally or evacuated to a depot maintenance facility according to the recoverability code assigned to the item.

*b.* All items that are to be locally condemned will require a completed DD Form 1577. This tag will be annotated to reflect that the item has been removed from a crashed aircraft or an aircraft that has been involved in an accident. Mutilation of condemned aeronautical items will be accomplished per TM 1-1500-328-23.

*c.* All items that are to be evacuated to a depot maintenance facility will require a statement on all applicable accompanying documentation, including DD Form 1577-2, stating that the item has been removed from a crashed aircraft or an aircraft that has been involved in an accident.

### **6-11. Nondestructive testing of structural parts and assemblies of aircraft**

The inspection and testing of structural parts and assemblies will, at a minimum, require a complete visual inspection but may require additional nondestructive testing per the applicable maintenance manual. Army military personnel performing nondestructive testing will be a graduate of MOS 15D initial entry training school and also have been awarded the ASI-N2 through an approved training course. For all civilian DOD personnel and non-DOD personnel performing inspections in accordance with the technical order, they will be qualified and certified to the current National Aerospace Standard (NAS) 410. At a minimum, the local organization will document its procedure on training and certifying their inspectors per NAS 410.

### **6-12. Shipment of unserviceable aircraft**

Unserviceable items selected for disposal by AMCOM will not be reinstalled in an aircraft. Action will be taken to ensure that the airframe attaching elements of the removed items are protected from deterioration or contamination while awaiting the replacement item. However, if the unserviceable aircraft is to be shipped or transferred off post or off station for repair, the unserviceable or interchangeable item must be installed or completely secured to prevent possible damage, deterioration, or contamination during movement of the aircraft. All unserviceable components will be individually tagged with DD Form 1577-2 and suitable entries made in the aircraft equipment records.

### **6-13. Maintenance training aircraft**

*a.* Maintenance training aircraft. These are aircraft employed for ground technical training that do not require airborne operations. Training aircraft are further classified as follows:

(1) Category A. Aircraft that can be returned to flyable status through minimum maintenance and modification. This category covers aircraft assigned on a temporary basis not to exceed 365 days to meet special training requirements. Extensions may be granted by AMCOM.

(2) Category B. Aircraft that is capable of ground operation if all components are installed. Category B aircraft can be returned to flyable status by depot rebuild or overhaul.

(3) Maintenance training airframes. Retired and condemned aircraft used to train maintenance personnel. Aircraft in this category are retired or have been damaged or deteriorated beyond the MEL established in TB 43-0002-3. Classification to maintenance training airframe status results in the aircraft being permanently grounded. Maintenance training airframes will be reported on DA Form 1352.

(4) Maintenance parts task trainers. These are portions of condemned aircraft (such as the cockpit, tail boom or cabin section) used to train Soldiers on maintenance tasks. They are not reportable on DA Form 1352.

(5) Maintenance training devices. Aeronautical equipment other than Category A or Category B aircraft or maintenance training airframes that are used to facilitate aircraft maintenance training. Items in this category range from uninstalled elements to mockups of major assemblies or functional groups.

*b.* Training aircraft responsibilities.

(1) Commander, AMCOM will—

(a) Provide aircraft for use as maintenance training aircraft based upon known requirements and as directed by AMC.

(b) Submit recommendations through AMC to the DCS, G-4 (Maintenance Directorate) for approval to classify and reclassify aircraft for maintenance training.

(c) Control current inventory of all maintenance training aircraft and distribute maintenance-training aircraft to meet training requirements.

(d) Provide required repair parts support and MWO kits for Category A and Category B maintenance training aircraft to the full extent required to complete maintenance.

(e) Provide required repair parts support for maintenance training that will ensure accomplishment of the training mission. Serviceable high-dollar value items (for example, engines, transmissions, rotor blades, and propellers) are not authorized except when approved by AMCOM.

(f) Develop funding requirements for resourcing repair of crash-damaged aircraft for use as maintenance trainers.

(g) Provide training activities with unserviceable or crash-damaged components as they become available.

(2) CG, FORSCOM, CG, TRADOC, major overseas commanders, and CNGB will—

(a) Present projected FY consolidated requirements for maintenance training aircraft, maintenance trainers, components, and test equipment. Institutional training equipment requirements for the subsequent FY will be obtained from annual requirements presented to the DCS, G-3/5/7 in May and/or June each year.

(b) Receive, evaluate, and provide command approval or disapproval of all requests for maintenance training aircraft received from subordinate activities.

(c) Ensure that all maintenance training aircraft assigned to subordinate activities are maintained under this regulation.

(d) Prior to repairs being accomplished, determine if crash-damaged aircraft or aircraft that is not economically feasible to repair can be exchanged for Category A or Category B aircraft already assigned to a training activity.

(3) Commanders of activities possessing maintenance training aircraft will—

(a) Maintain maintenance-training aircraft as prescribed herein.

(b) Report to AMCOM all excess maintenance training aircraft.

(4) Provide monthly reports of all maintenance training aircraft in their possession on DA Form 1352 per AR 700–138.

c. Maintenance policy.

(1) Category A aircraft will be maintained per applicable publications to a standard so that the aircraft can be returned to a completely operational flight status by the ASB within 60 working days. Category A aircraft should meet transfer serviceability standards outlined in TM 1–1500–328–23 prior to shipment to or from a designated training activity.

(2) Configuration control of Category B maintenance training aircraft will be maintained through incorporation of all applicable MWOs and, to the extent possible, ensure that training is consistent with the field operational aircraft systems. All systems and/or components required for program of instruction will be maintained operational and updated per the latest applicable MWOs. Removal and turn-in of systems and/or components not required for program of instruction may be approved by AMCOM. Category B aircraft and components will be maintained so they can be returned to flight operational status by depot overhaul or repair. Aircraft transfer standards are not mandatory for transfer to depot or any activity authorized the use of Category B aircraft.

(3) Serviceable components and/or systems not covered in paragraph 6–13d(2) will be preserved and periodically inspected, operated per appropriate TMs, and represerved.

(4) Components of maintenance training airframes that are not required for training purposes should be removed and returned to depot through normal supply channels. DD Form 1577–2 will be attached to each item. Disposition is per AR 710–2.

(5) AMCOM authorizes the control, classification, and reclassification of aircraft defined as maintenance training aircraft.

(6) A predetermined quantity of aircraft will be assigned to TRADOC as maintenance training aircraft to satisfy initial distribution requirements. Total requirements will be satisfied by subsequent phased deliveries as aircraft become available from production or from the operational fleet.

(7) Category A and Category B maintenance training aircraft and aircraft designated as maintenance training airframes will be reported on DA Form 1352 per AR 700–138.

(8) Uneconomically repairable, crash-damaged, or retired aircraft may be used, when economically feasible, as a source for maintenance training airframes that will whenever possible, be used as a replacement for Category A and Category B maintenance training aircraft and then be made available for return to flyable status, should a requirement exist. Any item removed from a crash-damaged aircraft for reuse will meet the criteria established by paragraphs 6–9 and 6–10. Final airframe classification will be made by AMCOM using TB 43–0002–3.

(9) Category A and Category B maintenance training aircraft that are no longer required will be reported to Headquarters, TRADOC. Headquarters, TRADOC will report excess maintenance training aircraft to Headquarters, AMCOM.

(10) Maintenance training airframes and devices that are no longer required will be reported to Headquarters, TRADOC. Excess maintenance training airframes and devices will be reported by Headquarters, TRADOC to AMCOM for disposition instructions.

(11) Categories assigned to maintenance training aircraft will not be redesignated without AMCOM approval.

(12) Aircraft items recorded on DA Form 2408–17 (Aircraft Inventory Record), when not required for training purposes on Category B maintenance training aircraft, will be returned to stock using normal supply procedures.

d. Controlled exchange.

(1) Controlled exchange of serviceable components from Category A and Category B maintenance training aircraft to any flyable aircraft is authorized. These components must be determined serviceable or economically repairable by a qualified inspector and must be of proper configuration and have all modifications applied. The component or assembly removed from a Category A or Category B maintenance aircraft will be replaced with a like component. These actions must receive concurrence from AMCOM.

(2) Controlled exchange of components from maintenance training airframes or maintenance training devices may be made only between other maintenance training airframes or maintenance training devices. Removal or installation of components listed in TB 1–1500–341–01 will call for the submission of DA Form 2410 per DA Pam 738–751 and TM 1–1500–328–23.

(3) Accountability of demands will be maintained in the unit prescribed load list (PLL) for controlled exchange transactions.

e. Maintenance of equipment record folder.

(1) Equipment logbooks and historical records will be maintained per DA Pam 738–751 and TM 1–1500–328–23 for all training aircraft, maintenance training airframes, and maintenance training devices.

(2) Ground operating time will be recorded on DA Form 2408–13 (Aircraft Status Information Record). A combination of flight time and ground run time will be used to determine time change requirements. Requests for time change extensions of components on ground-run aircraft will be submitted to AMCOM for disposition.

(3) DA Form 2408–18 (Equipment Inspection List) inspections are required on Category A and Category B aircraft unless a waiver is granted by AMCOM.

## **Section III**

### **Watercraft**

#### **6–14. General**

*a.* Purpose. To establish policies that are specific to the maintenance of DA watercraft.

(1) The materiel maintenance system that supports Army watercraft is made up of diverse maintenance activities that share the common goal of creating and sustaining watercraft combat readiness.

(2) The four major functional responsibilities of the Army watercraft maintenance activities are—

*(a)* Sustaining materiel in an operational status.

*(b)* Restoring it to a serviceable condition.

*(c)* Updating or upgrading its functional usefulness through MWO, materiel change, and product improvement.

*(d)* Maintaining materiel to TM 10–XX series and TM 20–XX series standards.

(3) The objective of Army watercraft maintenance is to ensure safe, seaworthy, reliable, and FMC watercraft. Watercraft units will follow the Army’s standard of replace forward and repair rear.

*b.* Scope. This section applies to all Army watercraft worldwide and all operators and support personnel of watercraft, up to depot level, including contractors.

(1) Army watercraft is defined in AR 56–9 and TM 55–500.

(2) Tactical river crossing materiel or non-MTOE and/or TDA watercraft used by the U.S. Corps of Engineers in its civil works projects and/or activities (except those items of marine engineering materiel to be activated in the time of mobilization) are excluded from the requirements herein.

#### **6–15. Maintenance policies**

*a.* The Product Director, Army Watercraft Systems, Program Executive Office Combat Support and Combat Service Support, is the life cycle manager for Army watercraft. The Product Director, Army Watercraft Systems, in partnership with U.S. Army Tactical Command (TACOM) LCMC, is responsible for all facets of life cycle management, to include sustainment maintenance and logistics support management processes of watercraft throughout its life cycle.

*b.* TACOM, through the Watercraft Inspection Branch, will provide the following maintenance support and services for the performance of maintenance and/or repair actions on Army watercraft:

(1) Service, overhaul, and/or repair of end items and other materiel designated by the equipment proponent via the MAC or other appropriate publications. When the MAC chart does not include subject fault, TACOM or manufacturer’s technical manual will provide guidance.

(2) Provide maintenance feedback and technical analysis to the owning commands using all available data sources that support the on condition cyclic maintenance (OCCM) program for Army watercraft.

(3) Perform a marine survey and/or TI by a Watercraft Inspection Branch marine inspector or surveyor. The inspection will determine the scope of work required to return a watercraft to a serviceable condition (TM 10 series and TM 20 series standard).

*c.* Sustainment maintenance is performed by the Watercraft Inspection Branch and is requested through the normal LIS work order process. Sustainment maintenance will be accomplished case by case as directed by TACOM, as follows:

(1) When repairs dictate that a watercraft be dry-docked to accomplish the necessary maintenance tasks, a dry-dock report will be provided by the Watercraft Inspection Branch.

(2) When operational conditions dictate, TACOM may authorize lower level maintenance activities to perform repairs beyond their authorized level of repair action. The quality assurance and LIS work order data responsibility remains as designated in the MAC.

*d.* Emergency repairs are immediate maintenance actions required to return the watercraft to a seaworthy, safe, and operable condition.

(1) The vessel master is authorized to perform any level of maintenance when engaged in sailing operations (underway and/or deployed away from home port) when faults or deficiencies occur which are outside their authorized level of repair.



This decision will be based upon the availability of resources at sea, the skill of the crew, and the impact of repairs to seaworthiness and operability.

(2) Materiel repaired under emergency conditions must be inspected by work order to the appropriate maintenance activity as designated by the MAC for determination of the proper repair in accordance with TM 10 series and TM 20 series standards. This inspection will be requested as communications are available with that activity. Vessel configuration control will be maintained. Any deviations to the original configuration will be reported through the departure from specifications process per DA Pam 750–8.

e. In cases where commands await disposition instructions, watercraft will be maintained in accordance with guidance provided by the life cycle manager.

## **6–16. On condition cyclic maintenance**

a. General. All Army watercraft will undergo OCCM per the intervals established in table 6–1. The intervals in table 6–1 are maximum time intervals. When a deviation of more than 3 months is anticipated, the using unit may request a waiver with justification through the appropriate ACOM, ASCC, and DRU commander to TACOM in accordance with paragraph 6–14 of this regulation. The equipment status reporting will follow standard AMSS guidelines after the waiver period (90 days after the service due date) has expired. OCCM is the sustainment-level maintenance that is performed to ensure compliance with international and national maritime regulatory guidance for minimum safety standards at sea. OCCM consists of a series of inspections and maintenance service actions that are designed to ensure that a watercraft's structure (internal and external), piping, main and auxiliary engines, electrical installations, lifesaving appliances, fire detecting and extinguishing equipment, pollution prevention equipment, and other equipment is maintained in a suitable, seaworthy, and safe condition.

b. Inspections and surveys. Marine condition surveys are TIs and written evaluations performed by qualified Watercraft Inspection Branch marine surveyors per TB 55–1900–201–45/1; Title 46, Code of Federal Regulations (46 CFR); American Bureau of Shipping (ABS) criteria; and safety of life at sea standards. TACOM is responsible for the policies and procedures applicable to the performance of marine condition surveys other than operator manual PMCS chart and the above-mentioned regulatory publications.

(1) A marine condition survey will be performed 180 days prior to the scheduled OCCM cycle. This survey will provide the basis for written specifications by which OCCM is accomplished. This will be a dockside inspection. When possible, the services of qualified divers will be used to ascertain the condition of the watercraft's hull and appendages below the deep load waterline.

(2) At the time of dry docking, a dry dock inspection will be performed to identify additional repair/maintenance requirements not observable at the time of the 180-day inspection (dockside).

(3) Scheduled surveys required by the U.S. Coast Guard and the ABS for retention of “load line” certification will be accomplished per 46 CFR 41–69 and TB 55–1900–201–45/1. When such inspections are required, the services of the ABS will be employed.

c. In addition to the 180-day marine condition survey, TACOM whenever possible will also conduct an underwater hull survey as defined by TB 55–1900–201–45/1.

d. Inspector qualifications. Only experienced and qualified technical experts will perform marine condition surveys on Army watercraft. This requires the surveyor to be thoroughly familiar with, and capable of interpreting, written standards, Federal laws, rules, and regulations affecting watercraft inspection, common watercraft construction, maintenance, and repair procedures. The marine surveyor must also be capable of preparing written repair specifications and estimating repair costs (man-hour and materiel costs) for repairs required to return a watercraft to CC “B” as defined by AR 725–50.

e. Responsibilities.

(1) The Watercraft Inspection Branch is responsible for the performance of all marine condition surveys incident to the repair and/or overhaul of Army watercraft when the maintenance and/or repair action is to be accomplished at the depot level. This includes all marine condition surveys incident to the accomplishment of OCCM as defined by this regulation.

(2) Support maintenance organizations and activities at the retail level are responsible for performing marine condition surveys incident to the repair of Army watercraft at their level or evacuation by LIS work order to the next highest level.

(3) When qualified marine surveyors are not available at support facilities, assistance may be requested through normal channels to TACOM in accordance with paragraph 6–15c.

f. Maintenance. The scope of work to be accomplished during OCCM will vary, depending upon watercraft condition, resource limitations, class of vessel, and other factors. As a minimum, the following maintenance and repair actions will be accomplished during OCCM:

(1) Bottom cleaning and painting up to the deep-load waterline per TB 43–0144.

(2) All repairs below the deep-load waterline as identified during dry dock inspection/underwater hull survey.

(3) Overhaul, replacement, and/or renewal of all major components identified for overhaul at the depot level. The requirements will be determined through diagnostic testing, hours of operation, and inspection of internal components as directed by TACOM.

(4) All other maintenance and/or repairs identified by the marine and/or ship surveyor required to affect a permanent change in the watercraft's condition, so as to ensure the following:

- (a) Capability of operating in an unrestricted manner for the purposes intended.
- (b) Capability of being maintained and operated per all applicable regulations, rules, laws, and policies.
- (c) Sustainability of the inherent reliability and maintainability designed and manufactured into the equipment between repair cycles.

(d) Sustainability of acceptable rates of watercraft readiness between OCCM cycles.

(5) All minimum maritime safety inspections required by the ABS; 46 CFR 41–69; and International Convention for Safety of Life at Sea to maintain the load-line documentation in a current status.

**Table 6–1**  
**On condition cyclic maintenance and/or dry docking intervals by class and/or type of watercraft**

Class and/or type watercraft	OCCM interval
Class A	
LSV	36 months
LT, DS 3006	36 months
LCU All	36 months
Class B	
J Boat, DS 4003	36 months
LCM8, All	36 months (OCCM survey at 30 months)
FB, All	36 months
ST 900	36 months (interim survey at 18 months)
Class C–1	
FMS, DS 7011	36 months
BD, 6800/264B	36 months
BG, DS 231B/231C	36 months (interim survey at 18 months)
Class C–2	
BC, All	48 months
BCDK, ALL	48 months (OCCM survey at 42 months)
BK, All	48 months
Q Boat, DS 4002	12 months (OCCM survey at 6 months) No interim survey required
APS Class and/or type watercraft	OCCM interval
Class A	
LT	60 months
AC and/or RC Class and/or type watercraft	OCCM interval
LCU, All	60 months
Class B	
LCM8, All	72 months
ST 900	72 months
MWT	72 months
CF	72 months
Class C–1	

**Table 6–1****On condition cyclic maintenance and/or dry docking intervals by class and/or type of watercraft—Continued**

Class and/or type watercraft	OCCM interval
BD, 6800 and/or 264B	48 months
BG, DS 231B and/or 231C	72 months
Class C–2	

## **6–17. Watercraft command, control, communications, computers, intelligence, surveillance, and reconnaissance**

*a.* Product Director, Army Watercraft Systems, through support agreement with U.S. Army Communications-Electronics Command (CECOM) LCMC, program executive office, command, control, and communications, special projects office, provides centrally managed and executed sustainment maintenance support for command, control, communications, computers, intelligence, surveillance, and reconnaissance (C4ISR) subsystems of Army watercraft. Those subsystems applicable to this paragraph are identified in DA Pam 750–8.

*b.* All requests for Army watercraft C4ISR support will be routed through the support operations center and/or single interface to the field in accordance with DA Pam 750–8. All C4ISR faults which cannot be resolved at the field level will be reported to the support operations center and/or single interface to the field in order to facilitate and/or initiate diagnosis and repair.

*c.* Emergency repairs to C4ISR subsystems otherwise covered under this paragraph may be performed by lower level activities in accordance with paragraph 6–15*d*, however all attempts will be made and documented to contact support operations center and/or single interface to the field for remote technical assistance.

*d.* Parts repair and replacement information from lower level activities should be provided to program executive office, command, control, and communications special projects office within 5 business days to support the centralized data and configuration management process.

## **6–18. Maintenance reporting**

Army watercraft will be maintained and reported using the processes and records dictated by DA Pam 750–8 and associated supporting LIS, and further in accordance with provisions of AR 56–9. For Army watercraft use the following maintenance forms:

- a.* DA Form 2402 (Maintenance Tag).
- b.* DA Form 5988–E and/or DA Form 2404.
- c.* DA Form 2405 (Maintenance Request Register).
- d.* DA Form 2406.
- e.* DA Form 5990–E, DA Form 2407, and/or DA Form 2407–1 (Maintenance Request Continuation Sheet).
- f.* DA Form 2408–9 (Equipment Control Record).
- g.* SF 368 (Product Quality Deficiency Report (PQDR)).
- h.* DA Form 3590 (Request for Disposition or Waiver).

## **Section IV**

### **Rail Materiel**

## **6–19. General**

The term “rail materiel” includes locomotive power, general rolling stock, and special purpose mobile rail materiel owned and operated by the Army.

## **6–20. Maintenance policies**

Field and sustainment maintenance will be accomplished per the policies set forth in chapters 3 and 4 and in this section as supplemented by materiel publications and directives. Army-owned rail materiel will conform to standards established by Government regulatory bodies in the country where such rail materiel is operated in interchange service and is subject to the rules of such regulatory bodies.

## **6-21. Maintenance operations**

### *a.* Field and sustainment maintenance.

(1) Rail transportation companies that may be expanded by Army mobile rail teams will provide field and sustainment maintenance to using units. For support of DA utility rail materiel in CONUS where no support companies are available, the field and sustainment maintenance will perform all functions with the mobile rail repair shops (see AR 56-3).

(2) TACOM will furnish the services of the mobile rail support shop for DA utility railroads on an as-required basis and will direct its operation as follows:

### *(a)* Army-owned rail equipment will receive free mobile rail services.

### *(b)* Defense supply depots and other DOD agencies may receive mobile shop services on a reimbursable basis.

### *(3)* DA rolling stock moving over interchange in CONUS will have running repairs performed per AR 56-3.

*b.* Depot maintenance. Depot maintenance will be programmed by TACOM on the basis of inspections by rail maintenance technicians.

*c.* Maintenance reporting and recording. Maintenance reporting and recording for Army rail materiel will be accomplished in accordance with DA Pam 750-8.

*d.* Installations electing not to use mobile rail support shops. These installations may contract the service to an outside source if cost-effective or may retain the work in-house if qualified personnel are available and support equipment is authorized.

## **Section V**

## **Communications Security Materiel**

## **6-22. General**

*a.* The maintenance of COMSEC materiel is greatly influenced by the security training and certification requirements concerning personnel, operations, and maintenance of COMSEC materiel. These requirements are contained in AR 25-12 and AR 380-67.

### *b.* COMSEC materiel consists of the following:

(1) Publications and classified equipment that are managed within the COMSEC materiel control system.

(2) Publications and unclassified COMSEC equipment that are managed within the Army maintenance and supply systems.

*c.* The CG, AMC is responsible for the national logistics support of Army COMSEC materiel.

*d.* Commanders at all levels are responsible for the proper maintenance of COMSEC materiel under this regulation.

### *e.* This section applies to the following:

(1) All elements of the Regular Army, ARNG, and USAR that maintain, inspect, or requisition COMSEC materiel.

(2) Contracting officers who administer Army contracts that require or authorize the issue of COMSEC materiel to a contractor.

## **6-23. Maintenance policies**

*a.* TMDE used for maintenance of COMSEC materiel will be calibrated under AR 750-43, TB 43-180, or specifications issued by the CG, AMC.

*b.* All maintenance will be accomplished on COMSEC materiel under the concepts and policies set forth in chapter 3 of this regulation and in this section as modified by COMSEC directives and materiel publications.

*c.* General technical instructions for completion of maintenance operations and testing of COMSEC materiel are contained in DA materiel publications.

*d.* The provisions of DODM 5220.22, Volume 2 and the FAR that pertain to contract maintenance apply to COMSEC materiel. In addition, commanders and contracting officers will ensure that contractors meet all applicable criteria contained in this regulation, AR 380-40, and TB 380-41. Requests for policy waivers and exceptions to established COMSEC procedures will be submitted through command channels to the Director, U.S. Army Communications Security Logistics Activity (SELCL-ID-P3), Fort Huachuca, AZ 85613-7041 for approval.

## **6-24. 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.

## **6-25. Records and reports**

Performance of maintenance operations on COMSEC materiel will be recorded in accordance with DA Pam 750-8.

## **6-26. Qualification and maintenance training policy for communications security equipment**

*a.* The personnel qualification requirements for training and certification of COMSEC materiel maintenance technicians are established in AR 25-12.

*b.* National policy for COMSEC materiel maintenance training standards and maintenance operations, as promulgated by the NSA, is contained in DODI 8523.01. This regulation provides general policy for all services on the requirements and security considerations applicable to the training of COMSEC maintenance personnel.

*c.* DODI 8523.01 also provides criteria for security awareness training requirements for all other CE technicians. Such security awareness training is a prerequisite to their performing maintenance at any level on COMSEC equipment end items and other major CE, weapons, or information systems containing embedded cryptographic components.

*d.* Adherence to the COMSEC training and maintenance policies and procedures contained in the referenced publications is compulsory. Security awareness training for all CE technicians will be documented on DD Form 2625 (Controlled Cryptographic Item (CCI) Briefing) and copies retained in personnel files and unit security records. In addition, maintenance supervisors will establish a file containing a copy of DD Form 2625 for each assigned technician under their control in maintenance facilities authorized to work on systems containing cryptographic components.

*e.* The special instructions below for supply of parts and special tools must be followed:

(1) COMSEC maintenance activities will establish and maintain a PLL and shop stocks per AR 710-2 for both classified and unclassified repair parts.

(2) Cannibalization of COMSEC materiel will be accomplished according to paragraph 4-10, after approval by Commander, U.S. Army Communications Security Logistics Activity (NETC-LOO).

(3) Tools and TMDE required for the maintenance of COMSEC materiel are authorized by the appropriate MTOE, TDA, or nontactical telecommunications development projects. They will be obtained per AR 710-2.

(4) Repairable exchange procedures for COMSEC materiel are in AR 710-2.

## **6-27. Evacuation of unserviceable communications security materiel**

*a.* COMSEC equipment will be evacuated to a capable repair activity only after a qualified CE equipment operator and/or maintainer certified for that equipment determines that evacuation is required per AR 25-12.

*b.* Unserviceable classified COMSEC materiel will be evacuated through the COMSEC Materiel Control System (CMCS) by COMSEC accounts to the Commander, Tobyhanna Army Depot (COMSEC) account 5B1099, 11 Hap Arnold Blvd., Building 73, Tobyhanna, PA 18466-5110. Unserviceable unclassified COMSEC materiel, including CCIs, will be evacuated through supply channels to the Commander, Tobyhanna Army Depot (Department of Defense Activity Address Code (DODAAC)) W81U11, 11 Hap Arnold Blvd., Building 73, Tobyhanna, PA 18466-5110.

*c.* Components, assemblies, and parts that have manufacturing defects will be removed from the materiel at the authorized maintenance level. The removal will be reported on SF 368 as a Category II QDR under DA Pam 750-8. When practical, exhibits (defective components, parts, or assemblies) will be forwarded with the QDR. Those parts not forwarded will be tagged with DA Form 2402 and held for further disposition instructions.

## **6-28. Controlled cryptographic items**

*a.* CCIs are declassified COMSEC items. Accounting and requisitioned and/or issued procedures are in AR 710-2.

*b.* CCI end items must be unkeyed prior to storage when not in operational status or when being turned in through channels for maintenance.

*c.* All COMSEC equipment, including unclassified items (CCIs), in an inoperable or tamper condition, and containing classified cryptographic key that cannot be destroyed, will be safeguarded, controlled and protected based on the classification of the key. Under such circumstances the equipment must be shipped via CMCS account 5B1099 for service.

## **Section VI**

### **Army Tactical Intelligence, Electronic Warfare, and Sensors Materiel**

## **6-29. General**

*a.* This section applies to the maintenance of Army tactical communications, command, control, and computer, intelligence, EW, and sensors equipment, including MTOE, TDA, and loaned materiel. Communications, command, control, computer, intelligence, EW, and sensors equipment includes, but is not limited to, the following:

(1) Army intelligence and electronic warfare (IEW) equipment fielded to corps, divisions, armored cavalry regiments, separate brigades, and battalions.

(2) INSCOM tactical IEW equipment, including select equipment items in U.S. Army field stations and regional support centers (RSCs).

(3) ACOM, ASCC, and DRU-developed, ACOM, ASCC, and DRU-procured, and ACOM, ASCC, and DRU-fielded IEW equipment, including nondevelopmental items and COTS items.

(4) Other selected communications, command, control, computer, intelligence, EW, and sensors equipment that receives sustainment and/or depot forward support from the Electronic Sustainment Support Center (ESSC).

b. The CG, AMC is responsible for the support of Army IEW materiel with the U.S. Army Corps of Engineers Command Logistics and Readiness Center being designated as the Army lead organization for tactical IEW logistics sustainment.

(1) The ESSC IEW RSC is an integrated repair activity that provides the field with a dedicated support structure for tactical IEW systems, as well as selected communications, command, control, computer, intelligence, EW, and sensors equipment.

(2) Joint operations equipment developed for special operations forces units are exempt from the requirements of this section.

c. The IEW sustainment RSC is an integrated repair activity that provides the field with a dedicated support structure for low-density IEW systems.

### **6–30. Intelligence, electronic warfare, and sensors maintenance policies**

a. CECOM LCMC has sole responsibility within the Army for IEW logistics sustainment. As part of this responsibility, all sustainment contracts will be consolidated under the control of CECOM LCMC. Centralized support for IEW materiel will be extended to all fielded systems, including systems fielded for prototyping analysis, independent of current level of acquisition management.

b. The emerging generation of IEW systems requires a sustainment concept that provides for repair as far forward on the battlefield as possible. The RSC provides this support to the field as well as system and maintenance troubleshooting and PPSS repair, along with a reconfiguration capability. All of these capabilities are integrated under the ESSC when possible.

### **6–31. Intelligence, electronic warfare, and sensors unit maintenance**

a. Assigned IEW field maintenance personnel perform field levels of maintenance. This typically includes replacement of line replaceable units (LRUs), circuit card assemblies, and piece parts when authorized by the MAC.

b. IEW maintenance activities are authorized to establish and maintain bench and shop stock, per the Federal Acquisition Regulation (FAR), Defense Federal Acquisition Regulation Supplement, AR 710–2, and/or contract for supporting IEW equipment repair.

c. Shop stock will be maintained using the SAMS–E or the approved and/or negotiated automated system.

d. Appropriate MTOE, TDA, TM, or letter authorization authorizes tools and TMDE required for the maintenance of IEW materiel. Materiel will be obtained per the FAR, Defense Federal Acquisition Regulation Supplement, or AR 710–2.

e. Maintenance requirements beyond the field level require a DA Form 2407 to be processed through the unit's field-level SAMS–E/IE to the RSC.

### **6–32. Intelligence and electronic warfare sustainment reporting committee symbol maintenance**

The ESSC will centralize IEW maintenance management and maximize the integration of the military sustainment maintainers in the sustainment brigade with the contractors and/or civilians in the C4ISR RSC. The C4ISR RSC will provide maintenance support for items not repairable at the IEW field level. The C4ISR RSC is a tailored activity based on the type of units and equipment supported in the regional area.

## **Section VII**

### **Communications Systems and Materiel Assigned to Network Enterprise Technology Command/9th Army Signal Command**

### **6–33. General guidance**

This section applies to maintenance of Army strategic and tactical communications networks, systems, and equipment and automation equipment assigned to Network Enterprise Technology Command (NETCOM)/9th Army Signal Command.

a. Assigned responsibilities include, but not limited to, the following:

- (1) Army portion of the global information grid.
- (2) Theater Communication System (Army).
- (3) Oversight of Director of Information Management base installation communications equipment policy.
- (4) Army command and control networks.
- (5) Armed Forces Radio and Television Service distribution systems.
- (6) Army Military Affiliate Radio Systems.
- (7) Army worldwide leased telecommunications facilities.

*Note.* This general guidance is applicable only to communications equipment that was the responsibility of the Army Signal Command to support as a FORSCOM MSC. Army Signal Command is now a DRU under the CIO/G-6 and re-flagged as NETCOM/9th Army Signal Command. The CIO/G-6 and the CG, NETCOM/9th Army Signal Command must approve all new maintenance responsibilities.

*b.* The CG, NETCOM/9th Army Signal Command is responsible for the following:

- (1) Maintenance support of all echelons above corps communications equipment assigned as their responsibility by HQDA and/or the CIO/G-6.
- (2) Organization and operation of all area maintenance and supply facilities (AMSFs) supporting OCONUS commanders.
- (3) NETCOM/9th Army Signal Command maintenance support teams.
- (4) COMSEC logistics support units.
- (5) Module and repair activities required for direct exchange of CE materiel and other electronics materiel as assigned.

#### **6-34. Maintenance policies**

*a.* The CG, NETCOM/9th Army Signal Command will approve maintenance levels authorized for all NETCOM/9th Army Signal Command units and CE fixed facilities. The approved maintenance levels are contained in the appropriate unit authorization document.

*b.* Each unit or site will perform maintenance up to the level of maintenance authorized per the MAC and within the constraints of available resources.

*c.* NETCOM/9th Army Signal Command units are only authorized to repair modules and printed circuit boards (PCBs), on standard Army equipment, to the level of SRA granted by AMC to the specific unit or repair facility.

*d.* NETCOM/9th Army Signal Command electronic maintenance shops are authorized to repair all COTS equipment modules and PCBs not covered by a manufacturer's warranty and/or support agreement.

*e.* When authorized by CECOM Communications Security Logistics Activity, COMSEC logistics support units will exchange and/or repair modules and PCBs in-lieu-of evacuating them to depots or other external support facilities.

*f.* TMDE repair and calibration support will ensure attainment of the minimum goal of 95 percent TMDE availability and provide services responsive to NETCOM/9th Army Signal Command operational requirements or established Defense Information Systems Agency restoration criteria.

#### **6-35. Maintenance facilities**

*a.* Field-level maintenance at small fixed facilities will normally be limited to operator maintenance. For other than operator maintenance, these facilities must rely on support from maintenance support teams, AMSFs, and/or other support maintenance facilities as designated in appropriate logistics and mission support plans.

*b.* Field-level maintenance is normally authorized at medium-size to large manned CE fixed self-sufficient facilities.

*c.* Sustainment maintenance is normally authorized at a large facility and/or isolated CE site or activity that must be provided with a high degree of self-sufficient maintenance. Factors supporting the performance of sustainment onsite are type of mission, location, equipment density, and nature of materiel. Repair of unserviceable modules, PCBs, and hard-wired components is accomplished at this level to the maximum extent authorized by the MAC and approved by NETCOM/9th Army Signal Command.

*d.* SRA maintenance actions coded L or D per the MAC is performed by maintenance support facilities identified by the NMP.

*e.* Unless authorized by an SRA granted by AMC, NETCOM/9th Army Signal Command units are not authorized to perform depot-level maintenance. For accomplishment of depot-level maintenance, NETCOM/9th Army Signal Command CE materiel will be evacuated to a DA-designated depot, to include authorized manufacturer and contractor operated maintenance facilities and/or may be performed, at the unit's location, by a depot-level maintenance repair team.

### **6–36. Area maintenance and supply facility**

ATP 4–33 establishes AMSF doctrine for sustainment facilities managed and operated by NETCOM/9th Army Signal Command. The AMSF is assigned the mission of furnishing centralized supply and maintenance support of NETCOM/9th Army Signal Command telecommunications materiel and other CE materiel as assigned. This includes the following:

- a.* Furnishing maintenance support for all assigned Army communications materiel at echelons above corps level that is not assigned by HQDA to other commands and agencies in overseas areas.
- b.* Furnishing maintenance teams to perform scheduled emergency backup technical assistance and instruction at the CE facility or unit location that is beyond the unit's capability and authorization.
- c.* Maintaining an ASL of CE supplies and CE repair parts.
- d.* Maintaining approved stock record account (project support account) to receive, store, and issue items on CE list of materiel.
- e.* Maintaining stock record accounts per AR 710–2 and NETCOM/9th Army Signal Command directives in this regulation.
- f.* Maintaining a capability to provide a training base for specialized CE materiel and to respond to emergency assistance requests from supported units.
- g.* Assisting supported units in correcting faults found during performance evaluations and inspections. AMSF also supports unit maintenance programs to improve and maintain the operational availability of the CE systems and materiel.
- h.* Operating a module and PCB repair section capable of Go and/or NoGo checking and repairing unserviceable modules and PCBs through the use of microelectronics repair methods and automated test equipment.
- i.* Repairing peripheral materiel, such as power generation equipment and environmental control units when not supported by the facility engineer or other area support maintenance units.

### **6–37. Maintenance support team**

The maintenance support team is that activity of an NETCOM/9th Army Signal Command field or sustainment maintenance facility that brings mobile maintenance support to CE fixed facilities or other NETCOM/9th Army Signal Command units on a scheduled, emergency, or on-call basis. The CE maintenance support teams are a functional responsibility of AMSF and/or other authorized command maintenance organizations; COMSEC maintenance support teams will be furnished by the COMSEC logistics support unit.

### **6–38. Quality assurance**

All NETCOM/9th Army Signal Command field and sustainment maintenance support facilities will institute effective quality control procedures in carrying out HQDA and NETCOM/9th Army Signal Command quality assurance programs. Quality control must be sufficiently independent of maintenance operations to ensure that inspections are not constrained.

## **Section VIII**

### **Logistics**

### **6–39. General**

Logistics IT provides automation capability to the Warfighter during operational and tactical operations. Sustainment is the provision of the logistics, personnel services, and health service support necessary to maintain operations until mission accomplishment. Figure 6–1 shows COTS computer repair and/or upgrade methodology. This section applies to the maintenance of logistics IT domain equipment identified on MTOE and TDA authorization documents and loaned materiel. The logistics IT domain includes LIS (formerly Standard Army Management Information System), GCSS–Army, CSS very small aperture terminal (VSAT), Combat Service Support Automated Information Systems Interface (CAISI), personal digital assistants, mobile support devices, and aircraft notebook computers. Equipment will be identified with LINs in support of life cycle management. Logistics IT equipment with LINs are readiness reportable. This section will detail Logistics IT Domain maintenance and life cycle management for both field and sustainment level of maintenance. Each level of maintenance will address logistics IT in five support elements: 1) hardware, 2) software, 3) network and communications, 4) operator functional business tasks, and 5) training.

- a.* Logistics IT field-level maintenance.

(1) Operators of logistics IT systems will perform PMCS in accordance with the manufacturer owner manual, hardware end user manuals and system user manuals for each LIS. Paragraph 3–2 of this regulation provides Army maintenance standards and paragraph 3–10 provides field-level maintenance instructions. Logistics IT equipment faults discovered during PMCS will be recorded in SAMS–E or GCSS–Army. Recording of faults may include life cycle management of automation equipment and the use of AIT. The use of AIT will enhance accuracy of equipment repair management, serial



number tracking, and property accountability. When SAMS–1E hardware becomes inoperative, the recording of a NMC fault will be entered upon recovery. Date and/or times will be recorded to reflect the NMC time.

(2) At operator level, logistics IT, hardware becoming NMC will be evacuated to the Sustainment Automation Support Management Office (SASMO) without delay. The operator will record the discrepancy upon discovery in either SAMS–1E or GCSS–Army. Screen print of error messages will be printed and provided to SASMO to isolate or target malfunctions when possible.

(3) The SASMO will replace NMC equipment with TCX stock to return the customer to FMC. The NMC TCX item will be work ordered to sustainment-level maintenance without delay.

(4) Operator will take the necessary action to ensure correct power source/supply is provided during tactical and/or nontactical operations. Operator will become familiar with manufacturer hardware power specifications. Computers and associated peripherals may require stable uninterrupted power from a reliable source.

(5) Maintenance of VSAT and CAISI hardware includes daily PMCS by the owning organization. Daily check of CAISI antenna “line-of-sight” for obstructions is needed to ensure continued uninterrupted operations. Operator will ensure the Pedestal unit is properly secured during inclement weather and free from vehicle traffic. The 250 foot fiber optic cord must be secure to prevent possible damage. VSAT hardware failure will be reported to the SASMO.

(6) The SASMO will support the user and/or operator in diagnosis and restoration of logistics IT equipment to an operational status. Failed LRUs will be turned into the supporting Tobyhanna Army Depot FRA (sustainment-level maintenance) through the SASMO.

(7) To the greatest extent possible, the SASMO, in coordination with the maintainer, will provide a mobile support team to restore and repair logistics IT equipment onsite.

(8) TCX for logistics IT equipment will be managed at field-level maintenance as follows:

(a) The SASMO or supporting maintenance activity will provide a replacement logistics IT “LIN” to unit personnel using a TCX asset from on-hand TCX assets and work order the inoperative (NMC) TCX to the supporting Tobyhanna FRA maintenance activity.

(b) Accountability for TCX assets is maintained by the SSA on the stock record account. The SASMO manages TCX assets as operational exchange or swap-out. The SASMO will ensure TCX and SASMO MTOE equipment remain separate. Once SASMO has an NMC TCX item, it will be work ordered to supporting FRA facility without delay.

(c) TCX will be used to replace customer logistics IT LIN equipment and annotated on appropriate GCSS–Army business processes. The SASMO will make notations on DA Form 2407 when serial number item are exchanged. Unit property records must be updated with current serial numbers. The tactical situation may require that the SASMO and support operations determine best and safe customer support business practices. IUID marking of computers may enhance this procedure.

(d) TCX will be managed in accordance with AR 710–2.

(e) Prior to issue of TCX to a customer, the SASMO will determine fair, wear, and tear in accordance with paragraph 3–10d.

(f) TCX is composed of NS–E computer systems (formerly COTS) and their associated peripheral equipment used to operate or support logistics IT applications. TCX will be located at the SASMO and must be 100 percent deployable (see para 8–7). Management of NS–E is provided in chapter 9 of this regulation.

(g) When TCX is zero balance and the SASMO cannot replace or swap out hardware, the SASMO will work order the customer hardware to the supporting FRA and inform them that the item requires priority. Logistics IT systems are unit reportable and sustainment maintenance must provide increased support.

(9) The SASMO provides logistics IT management, plans, policies, and procedures for logistics automation functions and/or systems to the sustainment brigade, area support and backup support to the battalion support battalion SASMO in the support footprint. The SASMO will task organize to meet operational and tactical missions. The SASMO is a staff element of support operations and reports logistics IT equipment and tactical network status, as needed.

(10) Logistics IT Software management is defined as Operating and Application Software. The SASMO will receive logistics IT new and/or change LIS software updates from CECOM, Software Engineering Center–Lee (SEC–Lee). The SASMO will ensure all customers are current with Logistics IT Software configurations. Information assurance (IA) updates must be uploaded upon notification from CECOM, SEC–Lee.

(11) Physical security requirements of logistics IT equipment are the responsibility of both the unit and the SASMO.

(12) Information security is the responsibility of the operator and unit commander. Operators will logout when not physically located at GCSS–Army client workstation or LIS. Operators will complete IA training in accordance with AR 25–2. Operators will ensure other operators do not perform tasks with current credentials of login. Do not share passwords.

(13) Logistics IT Hardware maintenance management is recorded and managed in SAMS–1E or GCSS–Army. All LINs must be entered and configured as unit MTOE and/or TDA equipment. The SASMO will manage SAMS–1E and/or

GCSS–Army to receive hardware and/or software work orders and document field-level maintenance activities. LIS interface is daily for receipt of work order status. Logistics IT equipment status is supplied to SAMS–1E at the Shop Office from the unit, not the SASMO. Shop office SAMS–1E interfaces with support operations SAMS–2E to process daily maintenance information, AMSS, and total cost ownership processing of data. GCSS–Army fielding will replace the business process; however, automation of logistics IT equipment maintenance continues at the unit.

(14) Units will ensure logistics IT equipment recorded on property books records match SAMS–E and ULLS–A(E) equipment records.

(15) Warranty management of logistics IT equipment at field-level maintenance includes maintaining manufacturer integrity at operator and SASMO levels. The program executive office for Enterprise Information Systems and the CECOM LCMC Logistics Readiness Center are the Army lead organizations for logistics IT sustainability and are responsible for the management of Life Cycle Management of LINs.

(16) Any computers procured by an ACOM, ASCC, and DRU to support a logistics IT may be repaired using these procedures, provided the ACOM, ASCC, and DRU has coordinated and funded that support. Sustainment costs are directed to commanders who purchase this equipment. CECOM, SEC–Lee will provide software and functional operator support through the Customer Support Office.

(17) Tactical Logistics IT Network “configuration” using CSS VSAT and wireless CAISI will be provided by the SASMO. Network maintenance includes the planning, configuring, supervising, and controlling of systems authorized to operate on the tactical network. CSS VSAT and CAISI is organizational property and may require support operations support in positioning of network devices throughout the area of operations.

(18) SASMO will develop a “Tactical Network Diagram” for the purpose of network troubleshooting, supporting theater positioned equipment requirements and geographical locations, provide to incoming forces during rotational operations, documenting network security information, and detailing geographical obstacles for CAISI “line-of-sight.” The SASMO will maintain the “Tactical Network Diagram” to brief commanders and support operations. Network recovery is essential for GCSS–Army since equipment master records are managed at the Enterprise Server. SASMO will support disconnected operations when tactical operations prevent connectivity, during actual movements and during routine “downtime” maintenance. The SASMO will develop and maintain a “Tactical Network Diagram” detailing CSS VSAT and/or CAISI geographic locations, client workstations on the network, configuration security settings and internet protocol addressing, systems on network such as MC4, Transportation Coordinator’s Automated Information for Movements System, BCS3, Movement Tracking System, and other logistics systems. Control must be maintained by the SASMO to ensure maximum bandwidth availability. The diagram will also detail public and private networks established to enhance user access. The diagram is used for network maintenance and hand-off to incoming rotational units.

(19) The SASMO will provide operator functional business task (over-the-shoulder) support to customers. The SASMO is the organic asset to provide limited support when information business process becomes a problem. Communications to a central help desk may be limited during tactical operations and thus SASMO provides that support. The logistics community has an enormous operator and supervisor customer base. Communications to sustainment-level support (help desks) may not be available during contingency operations or deployments.

(20) The SASMO will not perform computer internal component repair unless directed by ACOM, ASCC, and/or DRU G–4.

(21) Training is a maintenance enabler at the lowest level. Business process information may not find its way to the operator. SASMO provides that enabler to enhance automated logistics readiness through recovery operator training. SASMO will provide information to commanders related to sources of training. Resident and online, interactive baseline training are a few of the sources. Academic training is a supervisor responsibility and not a SASMO responsibility. SASMO is organized and staffed to provide limited customer functional support for logistics IT business activities.

*b.* Logistics information technology sustainment-level maintenance. All Automated Information System Standard Army Management Information System will be maintained as follows:

(1) Hardware maintenance at sustainment levels includes various organizations. Tobyhanna FRA provides logistics IT equipment repair minus the CSS VSAT. Field support representatives in support of PM Defense Wide Transmission Systems provide sustainment maintenance for the CSS VSAT. The FRA has trained warranty certified technicians for specific computer products. If the FRA has no trained certified technicians, the equipment will be forwarded to the manufacturer from the FRA. The SASMO, in most cases, will not be required to seek warranty support. This relieves the SASMO of that responsibility. Sustainment-level maintenance requires the FRA to code out each LIN when NRTS condition exists. The FRA will contact CECOM, SEC–Lee for replacement of equipment. The FRA may manage RCF at each facility. This capability provides additional recovery capability. The local FRA manager will determine when replacement of SASMO work ordered equipment is needed.

(2) The decision to repair and/or upgrade NS–E computers, personal digital assistants, AIT, and associated devices will be based upon a cost-benefit analysis of replacing versus repairing and/or upgrading the system. With the rapid advancement in technology, the repair and/or upgrade of logistics IT equipment may not be the best economic choice. The following factors should be considered during the decision process:

- (a) Cost of replacement from GSA schedule.
- (b) Warranty and/or no warranty.
- (c) Age of the equipment (consider substantially improved technology).
- (d) Mission impact while the system is being repaired and/or upgraded.
- (e) Extent of repair and/or upgrade.
- (f) Cost of repair and/or upgrade versus the MEL constraints.
- (g) Availability of parts.
- (h) Manpower availability versus manpower required in accomplishing the repair and/or upgrade.
- (i) Estimated service life after repair and/or upgrade.
- (j) Most timely method of getting system back into the hands of the end user.

(3) The maintenance of MTOE and/or TDA military equipment and standard/common and/or unique Army systems will have priority over the repair of locally procured logistics IT computer systems. The cumulative cost to repair or upgrade a logistics IT computer must not exceed 65 percent of the replacement cost of the individual LRU (the central processing unit, monitor, and printer). Accounting of expenditures for each LRU (by serial number) is the responsibility of the repair activity. Units must be able to produce records when required, such as—

(a) Copy of buy versus repair cost-benefit analysis. If audited, the unit must be able to produce these reports upon direction from higher headquarters.

(b) Cost of expenditures and work requests in support of the logistics IT computer repair and/or upgrade effort must be maintained. If audited, the repair shop must be able to produce these reports upon direction from higher headquarters.

(4) Logistics IT equipment computer will not be upgraded if the upgrade requires replacement of more than 50 percent of the internal major shop replaceable units or assemblies (motherboard, hard drive, disk drive, compact disk, central processor, and memory chips).

(5) Upgrade of a logistics IT computer must retain the original system configuration integrity of fit and form. The upgrade may improve the function but must not change fit or form (for example, a logistics IT computer will not be upgraded if the upgrade requires replacement of the external LRU case (the black box) or modification of the internal chassis).

(6) After redeployment to home station, units coordinate with SASMO, FRA, and LIS System Managers to:

- (a) Wipe hard drives and reimaging computers with software and all updates.
- (b) Load home-station unit information (UICs and DODAACs).
- (c) Inspect and clean computer hardware.
- (d) Inspect and test VSATs and CAISIs in an operational scenario to confirm they are MC.
- (e) Coordinate FRA repair, as required.
- (f) Coordinate replacement of hardware classified “nonrepairable” by the FRA (through SASMO and/or system managers).

(7) Residual modules will not be used to assemble additional logistics IT equipment. After repair or upgrade of a NS–E computer, removed SRUs will not be retained. Cascading is authorized; residual assemblies may be used for an upgrade to another NS–E computer. However, this additional upgrade must be coordinated between the SASMO and supporting FRA. All residual parts must be sanitized and turned in to the supporting FRA for approved disposition action. During deployments, mission requirements will dictate the scope of this requirement but all modules must be accounted for. The program executive office for Enterprise Information Systems and the CECOM LCMC are the Army lead organizations for logistics IT sustainability and are responsible for the management of the FRA.

(8) The procurement of limited additional equipment and/or software (special tools and/or diagnostic software to support logistics IT systems) is authorized. Owning organizations will fund this requirement. TMDE will not be acquired to support Logistics IT equipment repair efforts.

(9) Any computers procured by an ACOM, ASCC, and DRU to support a logistics IT may be repaired using these procedures, provided the ACOM, ASCC, and DRU has coordinated and funded that support.

(10) The ESSC at the Tobyhanna Army Depot FRA is an integrated maintenance activity that provides the field with a dedicated support structure for LIS hardware. The FRA also supports tier III office automation equipment at selected installations and, when deployed, as part of the AMC LSE.

(11) Software support is provided by CECOM, SEC–Lee. Each LIS has a system manager for life cycle management of software maintenance. Updates are distributed by software change packages and interim change packages. Each SASMO receives these packages and must maintain baseline configuration management for all customers. GCSS–Army

client workstations operating software and application software is also a SASMO responsibility. IA security updates must be also managed by SASMO. Maintenance recovery of software includes information security. Violations of IA must be reported to the commander. This causes reduced readiness of logistics IT.

(12) Fielding of hardware will be coordinated with ACOM, ASCC and DRU G-4 Logistics Automation office.

(13) DA messages and/or all Army activities taskings for logistics IT system testing, requests for information and status reports will be coordinated with ACOM, ASCC, and DRU G-4 logistics automation officer.

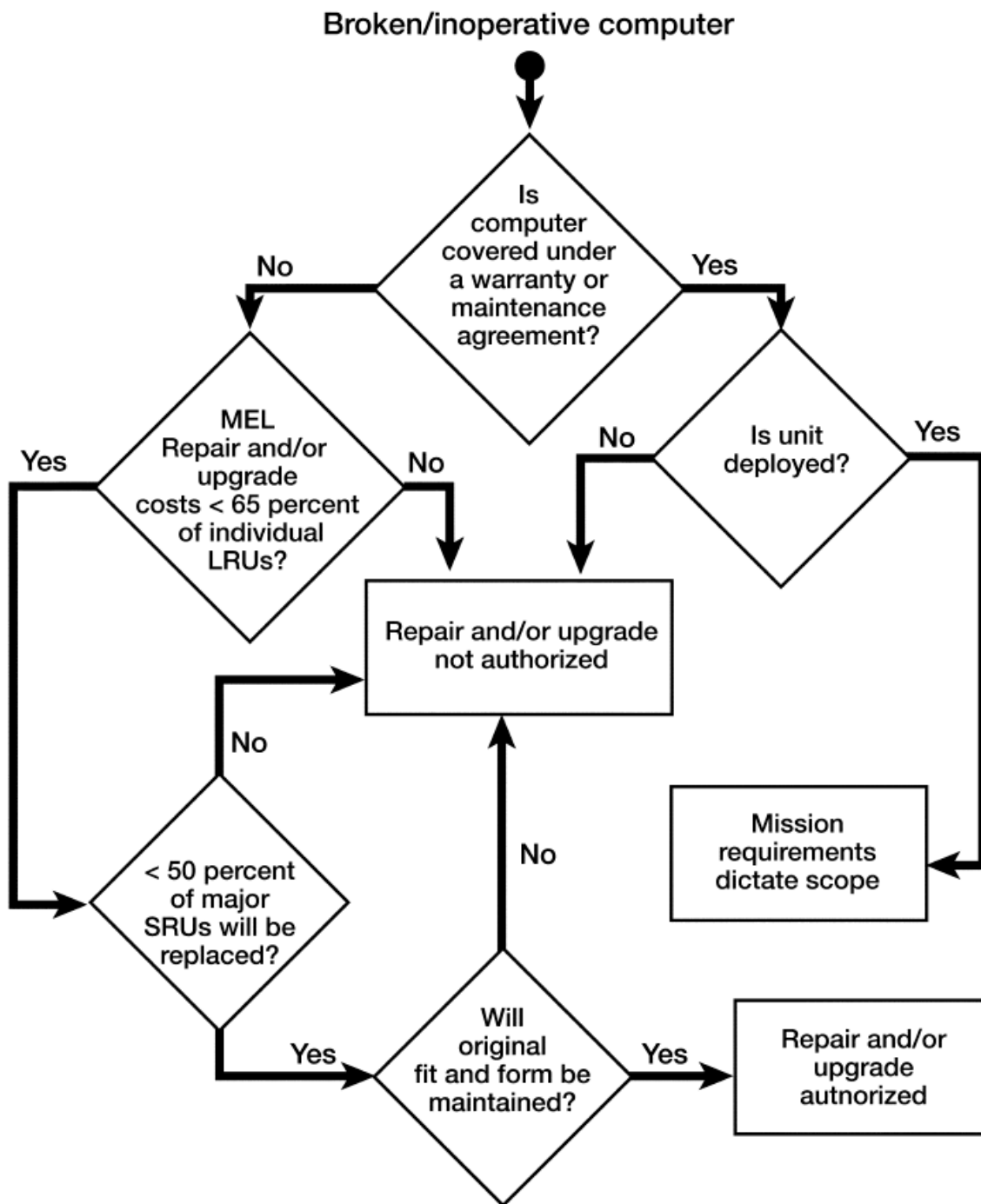


Figure 6–1. NS–E computer repair and/or upgrade flowchart

c. All information system and network configuration management plans will include strategy to ensure the latest security and application updates are applied in a proactive and controlled manner. Specific requirements can be found in AR 25–2.

#### **6–40. Repair parts supply for information technology**

- a.* Repair parts for IT are obtained under provisions of AR 710–2.
- b.* Cannibalization of uneconomically repairable IT prior to turn in to DLA Disposition Services is limited to those serviceable parts immediately needed to repair inoperable IT.
- c.* Commanders may authorize controlled exchange of IT repair parts based on automation systems readiness. This is a sustainment maintenance capability only.
- d.* Logistics IT computer parts required for non-warranty repairs should be purchased as needed using the Government purchase credit card with ACOM and ASCC G–4 Logistics Automation Office coordination and support. During deployment, mission requirements will dictate the scope of this requirement.

#### **6–41. Army Warranty Program for information technology**

- a.* The overall policies and procedures for the Army Warranty Program are contained in AR 700–139, which requires that items for Army use should be acquired with warranties only when the warranty is in the Army’s best interest. The decision must be made case by case. Acquiring commands or activities will establish local warranty implementation procedures.
- b.* In warranty applications, unit readiness and mission effectiveness will take priority. If the field-level maintenance activity is not able to get an effective response (within the warranty-specified timeframes), the maintenance activity will contact the acquiring command or activity for resolution. When resolution is not timely enough to meet mission requirements, the maintenance activity commander may authorize repair of the item and will notify the acquiring command or activity in writing of the necessity to repair the item now and settle any warranty issues later.
- c.* To the greatest extent possible, IT warranties will be structured to allow onsite or mail-in processes to maintain their warranties. FRAs are authorized at the AMC LCMC commander’s discretion to facilitate logistics IT repairs by the warranty vendors. FRAs should take action to become original equipment manufacturer certified warranty providers. Field maintenance will be performed on automation systems hardware when it does not violate the warranty.
- d.* Warranty support, which is contracted for prior to IOC but occurs after IOC, will be counted as depot maintenance and repair when reporting under the 50/50 rule. However, warranty support that is contracted for and occurs prior to IOC will not be counted as depot maintenance and repair when reporting under the 50/50 rule.

#### **6–42. Base operations information technology**

IT obtained for BASOPS support through the information management area process is supported through the directors of information management and the CIO/G–6. Although these systems are not part of tactical automation, maintenance may be obtained through the depot after coordination with the appropriate AMC LCMC.

### **Section IX**

#### **Test, Measurement, and Diagnostic Equipment**

#### **6–43. Support concept**

The support concept for general purpose TMDE will make maximum use of existing assets and Army calibration and repair system standards.

#### **6–44. Test, measurement, and diagnostic equipment support and management**

TMDE repair support will normally be based on the concept that repair should be accomplished by the element designated in TB 43–180 as being responsible for calibration support. TMDE support will be as follows:

- a.* All TMDE owners or users will do field-level maintenance on TMDE. General purpose TMDE and selected special purpose TMDE repair support will be obtained from the area TMDE support team or center responsible for supporting the geographic area where the TMDE owner or user is located. Repair support for the remaining special purpose TMDE will be obtained from the maintenance organization responsible for maintaining the associated system or end item. Medical activities will refer to AR 40–61.
- b.* Field and sustainment maintenance units will do field-level maintenance on TMDE and furnish support services for organic and supported unit’s special purpose TMDE.
- c.* Complex TMDE requiring multilevel maintenance support will be repaired and calibrated using assets from all required levels.

#### **6–45. Army National Guard test, measurement, and diagnostic equipment support**

States will coordinate directly with supporting area TMDE support teams for calibration services and calibration repairs provided to the State under NGB-funded programs.

### **Section X**

#### **Conventional Ammunition**

#### **6–46. General**

- a.* Ammunition maintenance consists of all actions necessary to retain ammunition in, or restore it to, an FMC condition.
- b.* Provisions must be made to accomplish maintenance at the unit storage location to the maximum extent possible.
- c.* The munitions maintenance program will be managed by the NICP and executed based on requirements determined by unit of employment “x” (brigade combat team) or division and/or corps from the theater inventory control point and/or NICP. The maintenance to be performed by an activity will be based on the activity's assigned mission or as directed by the brigade combat team, or division, and/or corps from the NICP.
- d.* The CC of ammunition will be determined by the surveillance inspection or as directed by brigade combat team, division or corps, or NICP in accordance with the quality assurance specialist.

#### **6–47. Field maintenance policies**

*a.* Field maintenance focuses on preventing deterioration of ammunition due to rough handling and exposure, returning ammunition to a serviceable condition. Field maintenance is not required or intended to perform major repair of components or disassembly and reassembly of ammunition. Field maintenance is to maintain stocks in a serviceable CC for immediate issue and use at all levels without special tools and equipment. Functions performed as field maintenance includes the following:

- (1) Cleaning, drying, and protection of individual items and/or packing material.
- (2) Spot painting and re-stenciling.
- (3) Removal of rust and/or corrosion.
- (4) Painting and stenciling of ammunition items, to include containers.
- (5) Repair and fabrication of boxes, containers, and crates.
- (6) Submission of ammunition condition reports.
- (7) Demilitarization as directed by the Joint Munitions Command and/or AMCOM.
- (8) Replacement of readily removable external parts and components such as fuses of artillery and mortar ammunition, grommets, and nose plugs, humidity indicator housing/cards.
- (9) Initial receipt inspection.
- (10) Receipt inspection.
- (11) Inspect packaging and loading during shipment (retrograde) process.
- (12) Certification of ammunition residue to be explosive free.
- (13) Periodic inspections.
- (14) Storage monitoring inspection.
- (15) Pre-inspection.
- (16) Safety in storage inspection.
- (17) Special inspection.
- (18) Verification inspection.
- (19) Basic load inspection.
- (20) Determining and assigning CCs.
- (21) Maintaining depot surveillance record cards on locally stored and/or managed ammunition.

*b.* Using units will perform field maintenance on items prescribed to be done at the unit in accordance with the appropriate TM. Field maintenance is performed to prevent corrosion and deterioration of ammunition because of rough handling and exposure.

*c.* Conventional ammunition renovation detachments will normally furnish sustainment maintenance on conventional ammunition in large ammunition supply points or depot complexes located in the communications zone. However, when practical, they should be deployed forward to perform maintenance rather than to evacuate unserviceable ammunition.

*d.* Sustainment maintenance reporting for conventional ammunition is described in accordance with AR 700–19 and DA Pam 750–8.

#### **6–48. Sustainment maintenance policies**

*a.* Sustainment maintenance accomplishes that portion of the maintenance mission that is beyond the capability or capacity of the field-level environment.

*b.* Sustainment maintenance is performed at or in a depot environment. Specific depot-level capabilities may be deployed forward, as required, to the Army service area to perform certain tasks. Selected overseas installations coordinate with AMC to perform depot maintenance that augments the procurement program.

(1) Sustainment maintenance reporting for conventional ammunition is described in accordance with AR 700–19 and DA Pam 750–8.

(2) Sustainment maintenance may be performed in an active theater of long standing or CONUS. Sustainment maintenance on ammunition consists of but is not limited to the following:

*(a)* Actions primarily comprising renovation, modification, or reconfiguration.

*(b)* Servicing actions comprising removal of extensive rust and or corrosion; painting and stenciling Class V materiel; and major repairs to or fabrication of boxes, containers, and crates.

*(c)* Renovation and modification comprising the replacement of either internal or external components that require the use of operational shields or barricades.

*(d)* Acceptance inspection in accordance with DA Pam 742–1.

*(e)* Surveillance function test inspection in accordance with DA Pam 742–1.

#### **6–49. Maintenance planning**

*a.* Munitions maintenance and surveillance procedures will be complied with in accordance with DA Pam 742–1.

*b.* The munitions maintenance program will be managed by the NICP and executed based on requirements determined by unit of employment “x” or unit of employment “y” from the theater inventory control point and/or NICP. The maintenance to be performed by an activity will be based on the activity’s assigned mission or as directed by the unit of employment “x” or unit of employment “y” from the NICP.

*c.* Personnel in MOS 89B and MOS 890A and quality assurance specialists (ammunition surveillance) assigned to conventional ammunition units will perform maintenance and demilitarization of ammunition only after receipt of a properly validated work authorization. Work authorization can be a DA Form 2407–1 (Maintenance Request Continuation Sheet), DA Form 2415 (Ammunition Condition Report), or letter of authorization. An assignment sheet (work order) can be added where a validated work authorization does not furnish sufficient information. The assignment sheet will be used within the organization and will normally provide for, but is not limited to, the following:

(1) The scope of the maintenance work.

(2) The lot number and quantity of rounds to be processed.

(3) The lot number and quantity of replacement parts or components to be used.

(4) Special instructions on inspection, operations, hazards, and disposition of unserviceable components resulting from operations.

(5) Operations that must be performed to process the material, consisting of replacing parts, painting, changing nomenclature, adding a suffix, and preparing data cards.

(6) Materials to complete the work, including quantity.

(7) DMWRs for renovation or disposal of ammunition are composed of a series of sheets in the form of a pamphlet. Each sheet is an operational study of the technical features of the operation to be accomplished. The DMWR is approved and issued by the TACOM–Armament Research Development and Engineering Center. The DMWR will be used as a guide for the ammunition officer preparing the details and procedures for completing the work in a theater of operation. DMWRs and letters of instruction are the only procedural guidance authorized for performance of maintenance and demilitarization at installations. Exceptions to this policy must have the approval of the NMP.

### **Section XI**

#### **Organization Clothing and Individual Equipment**

#### **6–50. Maintenance policy**

*a.* The organization clothing and individual equipment issued to Soldiers will be inspected to determine serviceability in accordance with AR 700–84 and DA Pam 710–2–1. The individual to whom the organization clothing or equipment is assigned must perform normal maintenance that would reasonably be expected to be performed within a unit. This maintenance includes cleaning, spot removal, repair of tears or rips, and replacement of buttons. Field maintenance and repair procedures for organization clothing and individual equipment are in TM 10–8400–203–23.



*b.* Each installation or activity will ensure clothing and materiel beyond organizational repair capability is turned in to a central location for either repair or return to stock or classification as unserviceable and turned in to DRMO.

*c.* The U.S. property and fiscal officer may authorize negotiation of local contracts for maintaining clothing and equipment for the ARNG as follows:

(1) Minor alterations and repairs of individual clothing.

(2) Minor repairs of U.S. property and fiscal officer stocks to reclassify items to a serviceable status for reissue.

*d.* Major alterations for the purpose of modifying items will require prior approval of CNGB.

*e.* Laundry and dry cleaning services are authorized as follows:

(1) Laundry services in support of AT per NG Pam 350–1.

(2) Laundry and dry cleaning services in support of IDT should be obtained at the lowest possible cost for the following items:

(*a*) White organizational clothing and equipment issued to medical and food service personnel.

(*b*) Sheets, pillowcases, and mattress covers.

(*c*) U.S. property and fiscal officer stocks of serviceable individual and organizational clothing and equipment prior to reissue.

(*d*) Individual clothing for interment of deceased personnel when Federal funds are authorized.

(*e*) Blankets and sleeping bags.

(*f*) Army band distinctive uniforms as authorized by common table of allowances (CTA) 50–900.

### **6–51. Maintenance expenditure limits**

MELs can be found in TB 43–0002–27.

## **Section XII**

### **Heavy Canvas**

### **6–52. General**

Heavy canvas classification and repair was previously performed by MOS 43M (Fabric Repair Specialist) Soldiers within maintenance units. With the consolidation of MOS 43M and MOS 57E (Laundry and Shower Specialist) into MOS 92S (Shower/Laundry and Clothing Repair Specialist), the capability to repair heavy canvas was eliminated. The rationale for eliminating the capability is that heavy canvas items are no longer being procured. The replacement items are made from a vinyl material that can be repaired by the owning organization using a repair kit.

### **6–53. Maintenance policy**

*a.* As heavy canvas items, such as tents and vehicle canopies, become nonrepairable at the field level, the units will turn in the items through normal supply channels per AR 710–2 and chapter 3 of this regulation. Class IX items, such as vehicle canopies, may be disposed of by the maintenance unit.

*b.* Class II items, such as tents, must be classified and turned in to the DRMO. ACOMs, ASCCs, and DRUs installations must establish procedures for classification and turn in of Class II items. Supporting installation DOLs will provide disposition instructions.

*c.* Heavy canvas items will be replaced through attrition and purchased with the unit's O&M funds. CTA 50–909 provides authorization for these items.

*d.* Repairs to vinyl items beyond the capacity of the unit (for example, zippers, windows, and frame components can be repaired by the IMMA, if within their capability and the MEL).

*e.* Repair kits are available.

## **Section XIII**

### **Nontactical Vehicles**

### **6–54. General**

*a.* Authorized maintenance may be accomplished in transportation motor pool shops, the Internal Mission Materiel Maintenance Activity, local commercial shops, or other Government maintenance activities as jointly determined by the motor pool manager and the installation management officer. In all cases, warranties are to be used to the maximum extent possible. Detailed policies on management of NTVs are in AR 58–1.

- b.* Operator inspection and service consists of inspecting and detecting malfunctions that make the vehicle unsafe or unserviceable and includes minor or simple parts replacement and servicing (water, fuel, tires, and battery).
- c.* At those installations having consolidated maintenance shops, all maintenance is the responsibility of the installation management officer. NTV maintenance may be performed in the transportation motor pool shop but will normally be performed in the consolidated shops.
- d.* ORF support and administrative storage of NTVs is not authorized.
- e.* The MEL for an NTV is in AR 58–1.

## **6–55. Modifications**

Modifications of an NTV are covered in AR 58–1.

## **6–56. Repair parts supply**

- a.* Repair parts for an NTV are obtained under the provisions of AR 710–2.
- b.* Cannibalization of uneconomically reparable vehicles prior to turn in to the DRMO is limited to those serviceable parts immediately needed to repair inoperable vehicles.
- c.* Major commanders in overseas areas may authorize controlled exchange of repair parts from NTVs only when those repair parts are not otherwise available.

## **Section XIV**

### **Training Aids and Devices and Visual Information Equipment and Systems**

## **6–57. Training aids and devices**

This section provides maintenance policy for training aids and devices. It supplements policies in AR 25–1, AR 350–38, and AR 700–127. Training aids and devices used by the Army can be categorized as follows:

- a.* Training aids and devices assigned to a MTOE unit are type classified and include simulators or end items.
- b.* Training aids and devices managed by TDA activities include the following:
  - (1) Nontype-classified training aids and devices developed or commercially acquired to support general military training and training on more than one type item of materiel. These are usually assigned to and maintained by training and visual information (VI) support centers for loan to units and activities.
  - (2) Type-classified training aids and devices used to support a special training requirement.
- c.* Maintenance policy is as follows:
  - (1) Type-classified and nontype-classified training aids and devices will be maintained per this regulation.
  - (2) Operator and/or crew training equipment will be maintained to the Army maintenance standard outlined in paragraph 3–2 and the turn-in and/or transfer standard in paragraph 4–8.
  - (3) Equipment (end items and major assemblies) that is frequently disassembled and assembled for instructional purposes will not be maintained to Army maintenance standard. Additionally, this equipment will be transferred or turned in to the national system under CC “F” and not –10/–20. If required for reissue, equipment will be routed through depot maintenance before issue. Equipment will remain disassembled for instructional purposes.
  - (4) A maintenance plan as part of the logistic support plan will be developed and fielded with the materiel. COTS materiel procurement will include a MSP or justification for contract maintenance or inter-Service support.
  - (5) Type classified training aids and devices that are identified on MTOE or TDA documents will be maintained per the MAC. Support requirements beyond the user’s authority or capability will be referred to the supporting IMMA.
  - (6) Locally fabricated training aids and devices will be maintained by the training and VI support center. Maintenance above the capability of the training and VI support center will be referred to the supporting IMMA.
  - (7) User commands are responsible for programming and budgeting funds for contract maintenance support for all training aids and devices under their control.
  - (8) Depot-level maintenance will be furnished by AMC.

## **6–58. Visual information equipment and systems**

This paragraph provides maintenance policy for VI equipment and systems. It supplements policies in AR 25–1 and AR 700–127.

- a.* VI materiel includes photographic, television, audio and graphic art items that furnish an audiovisual product or service.
- b.* The CIO/G–6 will validate authorization of type-classified VI materiel prior to documentation in a CTA, TDA, or TOE, and/or MTOE to ensure compliance with DODD 5040.2.

c. Class VI materiel assigned to an audiovisual facility or other TDA activity, including broadcast radio and television, will be commercially acquired. The logistics supportability of commercially acquired materiel is the responsibility of the procuring activity. Local procurement will be coordinated with the local common support audiovisual activity for consolidation of contracts for maintenance services and adherence to standards and Class VI architecture (see DA Pam 25–91 provides guidance). Broadcast radio and television materiel and systems costing over \$5,000 will be procured, managed, and supported by the television-audio support activity, the Office of the Assistant Secretary of Defense (Public Affairs), and the American Forces Information Service.

d. Maintenance policy is as follows:

(1) A maintenance plan as part of the logistic support plan will be developed and fielded with the materiel. COTS materiel procurement will include the equivalent of a MSP or justification for contract maintenance or inter-Service support.

(2) Type-classified VI materiel will be maintained per the MAC. Support requirements beyond the user's authority or capability and all nontype-classified audiovisual materiel will be referred to the common support VI activity or the Director of Information Management.

(3) The training community may, at the option of the ACOM, ASCC, and DRU, manage maintenance of Class VI equipment and activities integrated with training device support activities. Otherwise, contract requirements will be submitted to the supporting Director of Information Management, who will coordinate the support.

(4) User commands are responsible for contract maintenance support for all Class VI materiel under their control and are responsible for budgeting funds for it. Funds will be made available by the user to the supporting Director of Information Management or Class VI activity to support its contract efforts.

## **Section XV**

### **Medical Equipment**

#### **6–59. General guidance**

a. Purpose. Establish Army policy specific to medical materiel.

(1) Maintenance of medical materiel includes maintenance engineering and medical maintenance operations.

(2) The objective of medical maintenance operations is to provide robust maintenance and logistics support to medical commodity end item users. This includes but is not limited to installation, maintenance and repair of medical equipment, individual and unit training, medical maintenance proficiency training programs in accordance with AR 350–1, and rotation base assignments to ensure readiness for peacetime and mobilization surge requirements.

(3) The five major functional responsibilities of the Army medical maintenance activities are—

(a) Sustaining materiel in an operational status.

(b) Restoring materiel to a serviceable condition.

(c) Responding to safety recalls and health device alerts.

(d) Performing scheduled and unscheduled services on medical equipment to the Army maintenance standard defined in paragraph 3–2.

(e) Implement total life cycle management ILS on medical equipment.

b. Scope. This section applies to TOE Army medical forces including both field and sustainment levels.

c. For policies that are specific to the maintenance of DA maintenance significant medical materiel in TDA Army medical forces including USACHPPM and Armed Forces Institute of Pathology refer to AR 40–61.

#### **6–60. Maintenance policies**

a. TSG, command surgeons, RMCs and/or MSCs will task the medical materiel maintenance functions to medical activities to support the Army Medical Department (AMEDD) mission. TOE commanders will report the status of selected medical items of equipment in accordance with AR 220–1 and AR 700–138.

b. AMEDD has transitioned to the Army Maintenance System consisting of field and sustainment (two level) maintenance.

c. Medical maintenance support missions will be accomplished with applicable standards pertaining to the maintenance of medical equipment including but not limited to:

(1) Documenting maintenance of radiation emitting equipment in accordance with 21 CFR and TB MED 521.

(2) Maintaining a safe environment of care for the patient and staff in accordance with 29 CFR.

(3) Performing electrical safety in accordance with National Fire Protection Association 99.

(4) Ensuring preventive life safety measures are considered as outlined in National Fire Protection Association 101.

(5) Managing medical equipment program in accordance with TB MED 750–2, ATP 4–31 and FM 5–424.

*d.* TSG through the AMEDD NMP must approve the use of field and sustainment contract maintenance for materiel fielded under MTOE.

*e.* ILS plans will be adhered to throughout the life cycle of medical materiel to ensure adequate logistics support (see AR 700–127 for additional information on ILS).

*f.* Medical materiel acquisition policies and procedures will be followed in accordance AR 40–60 to minimize logistics support requirements. Nonstandard equipment procurement will include MSPs, justifications for contract maintenance, or ISSAs.

*g.* Each item of medical equipment will be tested for serviceability and electrical safety prior to initial use, and at least annually or more frequently if recommended by the manufacturers' guidelines. Test results which measure technical specifications will be documented in accordance with TB MED 750–2.

*h.* TOE medical maintenance units will use SAMS–E/IE until such time as the medical logistics ERP solution is developed and fielded.

*i.* The specific maintenance policies that apply to the ARNG are as follows:

(1) State maintenance officers must coordinate medical maintenance support.

(2) Medical maintenance requirements beyond unit capabilities may be supported from the following resources:

(a) Other ARNG medical maintenance resources in the State.

(b) U.S. Army Medical Command (MEDCOM) organizations with area support responsibilities.

(c) U.S. Army Medical Materiel Agency (USAMMA) maintenance divisions.

(3) The SB 8–75–S10 provides additional ARNG-specific medical equipment maintenance guidance.

## **6–61. Maintenance management**

*a.* Commanders of Army medical forces will publish written directives which govern field-level and sustainment-level biomedical equipment maintenance management programs for their organizations as appropriate. Commanders will appoint qualified medical maintenance managers.

*b.* Commanders may use field or sustainment support to provide for organizational level maintenance management; the records of services will remain with each organization UIC. Primarily, maintenance records will be documented using LIS applications and reported to AMC LOGSA LIW using the approved reporting architecture for medical technologies.

*c.* Medical maintenance managers will obtain an approved DODAAC and derivative UIC, as necessary for their LIS from the UIC and/or DODAAC coordinator.

*d.* Medical maintenance managers at each organization will publish internal and external SOPs that detail equipment maintenance management programs. The SOPs will be updated at least every 18 months and an electronic copy will be provided to the USAMMA–M3D (AMEDD NMP) via e-mail at [usammanmp@amedd.army.mil](mailto:usammanmp@amedd.army.mil).

*e.* Medical maintenance managers will use MOAs and delegations of authority documents to develop equipment support relationships between field and sustainment support organizations.

*f.* Use assigned biomedical equipment specialists for medical maintenance support on medical equipment. Do not assign BES additional duties that may adversely affect the performance of medical maintenance mission or routinely use BES' for other than the maintenance of medical equipment.

## **6–62. Preventive maintenance checks, electrical safety inspections, and calibration, verification, and certification services**

*a.* All TOE Army medical forces must provide safe environments to prevent electrical shock and other safety hazards related to medical equipment usage.

*b.* Organization's biomedical maintenance programs will perform calibration, verification, and certification (CVC) services on medical equipment in accordance with all applicable standards referenced in paragraph 6–60.

*c.* Perform CVC services on organic medical equipment in accordance with the applicable MAC or other reference document (for example, manufacturer literature, TB MED 521).

*d.* Refer to TB 38–750–2 for instructions to complete manual forms located in appendix A.

*e.* Only MOS-qualified 68A/670A personnel or industry and/or DOD trained civilians and contractor personnel are authorized to perform maintenance and calibration services on medical equipment producing ionizing radiation to verify that the equipment meets performance requirements outlined in the applicable MAC or manufacturer's literature.

(1) As per federal regulation 21 CFR 1020, the manufacturers of medical equipment that produces ionizing radiation must provide assembly instructions, written maintenance instructions and those maintenance interval schedules required to keep the equipment in compliance with all specific performance criteria.

(2) BES will perform annual CVC services on medical equipment that produces ionizing radiation, (plus or minus 30 days).

(3) Army medical forces BES will also perform CVC service on medical equipment immediately after any unscheduled service that could affect the equipment's overall calibration integrity. This includes repair parts replacement or certified component exchanges.

f. Defibrillators will be thoroughly evaluated and tested, using defibrillator analyzers in accordance with TB MED 750-2, at least semiannually.

g. Scheduled CVC services will be performed on all medical equipment in TOE units at least annually. These services will be performed in accordance with applicable MAC. In the event MAC is unavailable or does not specify, CVC services will be performed at the first authorized level of maintenance that has the capability and TMDE to do so.

#### **6-63. Test, measurement, and diagnostic equipment**

a. Medical special purpose TMDE (TMDE-special purpose) is medical materiel used specifically for the test, calibration, and repair of medical equipment. Such TMDE does not include items used to diagnose or treat patients.

b. As the AMEDD TMDE manager, USAMMA will manage, direct, and control the AMEDD TMDE-Special Purpose Program.

(1) USAMMA will provide life cycle management for all type classified medical TMDE-special purpose in support of TOE and TDA medical organizations. TMDE-special purpose life cycle management includes the acquisition, approval, repair, calibration and the modernization of TMDE-special purpose.

(2) All TMDE will be calibrated in accordance with calibration intervals specified in TB 43-180.

(3) TMDE required by the AMEDD Army school curriculum to provide individual training will not require cyclic calibration unless training efficiency or safety is adversely affected. MEDCOM policy specifies that all general purpose TMDE (TMDE-general purpose) used in AMEDD School training courses will be calibrated.

(4) United States Army Medical Materiel Center Europe is the designated alternate source to provide repair and calibration support services for type classified medical TMDE-special purpose within the European Command.

(5) AMEDD activities providing TMDE-special purpose calibration and repair support will establish and maintain an instrument master record file.

c. Nontype classified medical TMDE-special purpose support will be accomplished as follows:

(1) All TMDE-special purpose owners or users will perform operator level maintenance.

(2) TMDE-special purpose repair and calibration support will be obtained in accordance with TB 43-180 or by contract maintenance support.

(3) TMDE-special purpose calibration intervals are specified in TB 43-180 or manufacturer instructions.

d. Units are responsible to validate current requirements with on-hand TMDE.

(1) Coordination must be done with the USAMMA and the TMDE support center to ensure that excess or obsolete TMDE has proper disposition.

(2) Commanders will request TOE adjustments for TMDE with U.S. Army Force Management Support Agency (USAFMSA) using the DA Form 4610-R-E (Equipment Changes in MTOE/TDA (EGA)).

e. The Directorate of Combat and Doctrine Development and USAMMA ILS Managers must confirm the BOIP for all LIN TMDE requirements.

#### **6-64. Reliability-centered maintenance, conditioned based maintenance plus, and remote diagnostic assessment**

a. All organizations and activities that are responsible to plan for acquisition of equipment used in the medical environment are responsible to address and comply to the extent possible, with the following elements:

(1) Application of the RCM process from inception of the requirement, during acquisition, and development of maintenance support strategies, to procurement, and deployment, leads to a maintenance program that uses the limited resources of parts and personnel effectively to limit equipment downtime and failure on critical items while allowing tolerable risk on systems that are not as critical.

(2) The incorporation of diagnostic and prognostic systems of CBM+ into the equipment creates a shift from performing scheduled services to an analytical process that discloses degradation of product performance before failure.

(3) Research, development, and acquisition is a program and capability that allows remote access, interrogation and corrective actions to medical devices and equipment via internet protocol or by direct connection to on-the-ground diagnostic equipment.

b. These capabilities are described collectively as a single logistics operational environment under the Common Logistics Operating Environment Program.

## **6–65. Medical Maintenance Management Directorate**

The Medical Maintenance Management Directorate has principal responsibility for and serves as the Army's lead for Class VIII medical equipment maintenance. Medical Maintenance Management Directorate manages the Army Medical Department NMP, provides a National Maintenance Sustainment Program for medical materiel, operates depot-level medical maintenance capability, and implements national level medical maintenance programs, policies and procedures.

## **6–66. Forward repair activity–medical**

*a.* The FRA–medical is a TSG-resourced, TSG-directed, and TSG-controlled activity operated as a deployable section within the USAMMA's depot-level maintenance activities. FRA–medical will provide support for medical equipment or commodities.

*b.* An overseas FRA–medical may be established by TSG when it has been determined, that in-country, forward depot-level support by depot-level personnel or by CLS operations are needed to sustain mission critical systems or components.

*c.* Determination of the need for a FRA–medical to provide depot-level maintenance on select items that directly impact materiel readiness of critical systems and/or equipment will be given priority during the depot-level maintenance planning phase.

## **6–67. Army Medical Department National Maintenance Program**

*a.* The AMEDD NMP provides national-level oversight of maintenance and sustainment functions for Army medical forces. AMEDD NMP manages all sustainment repairable items which are composed of items that cannot be repaired at field-level maintenance. All sustainment-level repairable items will be repaired to the Army maintenance standard defined in paragraph 3–2 and for nonstandard equipment, manufacturers' literature or documentation developed by sustainment organizations.

*b.* AMEDD NMP will—

(1) Enhance responsiveness to sustainment maintenance requirements generated during peacetime, contingency, and wartime conditions by linking all levels of sustainment maintenance under the appropriate commodity command.

(2) Implement the Army policy of repair as the primary SOS.

(3) Implement the highest published standard as the national standard and the single standard for those items repaired and returned to the supply system.

(4) Optimize workload across existing maintenance capabilities and allows for reductions in capital investments to maintenance facilities and TMDE used in maintenance operations.

(5) Develop and maintain a database of maintenance facilities, both organic and contract, and is responsible for ensuring minimal redundancy of maintenance capabilities and capacities.

(6) Ensure all repairs will be demand supported and based on Army requirements.

(7) Consolidate all sustainment maintenance workload in depots, on national maintenance contracts or at non-depot maintenance activities.

*c.* AMEDD NMP will also—

(1) Develop strategic plans to support Army Class VIII equipment requirements for maintenance that effectively and efficiently support contingency operations through strategic maintenance points and capabilities that project maintenance subject matter expertise across the continuum of care.

(2) Support the AMEDD maintenance vision of ensuring 100 percent readiness for field medical, dental, and veterinary units.

(3) Monitor processes that foster improvements in readiness of medical equipment and materiel issued to TOE medical units to include readiness assessments through SDC, training support, maintenance automation development and special programs implementation.

(4) Manage non depot repair programs for all Class VIII repairable items for the Army.

(5) Maintain visibility of the Army's sustainment maintenance capabilities and capacities.

(6) Provide input on national maintenance related to doctrine, strategic direction, and policy documents.

(7) Develop and coordinate maintenance management procedures, guidance and metrics.

(8) Serve as a resource for national maintenance information to ILS processes.

(9) As part of the Integrated Concept Development Team, coordinate maintenance data requirements with logistics automation developers.

(10) Track cost effectiveness and efficiency of national repair programs.

(11) Maintain AMEDD NMP databases and/or files.

(12) Ensure Army medical materiel maintenance policies are updated and remain applicable to current field tactical and sustainment business procedures for biomedical systems, technologies, and equipment.

(13) Ensure medical maintenance management processes fully supports the Army's Medical Logistics Enterprise.

## **Chapter 7**

### **Life Cycle Maintenance Support**

#### **7–1. General**

*a.* Total ownership cost 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 and/or 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.

*b.* MATDEVs will track efficiency programs (for example, recapitalization) to validate cost avoidance. MATDEVs must address the following: documentation of methods used to determine projected cost avoidance, milestones for key events in development and implementation of efficiencies, and periodic reports (format and frequency) to monitor progress of efficiencies. Future efficiencies claims will have metrics addressing the following: detailed description of goals expected, detailed evaluation plan covering data collection plan and measures of success. MATDEVs will document them in accordance with ASA (FM&C) Army Cost and Economics (C&E) Economic Analysis Manual.

*c.* This chapter contains policy and guidance for establishing and sustaining maintenance support across the life cycle of Army materiel. Comprehensive maintenance support throughout the entire life cycle is required to assure that materiel can be maintained in its operational environment with minimum resources for achieving operational readiness and sustainability. The engineering and technical capability required to ensure Army equipment is maintainable within the Army standard maintenance system is called systems technical support (STS) for systems that are in production and sustainment systems technical support (SSTS) when systems are out of production. Engineering and technical support capabilities include the following functions:

- (1) Conduct of logistics support analyses.
- (2) Development and update of the maintenance concept, including the LORA, the MSP, the depot support plan, logistics management data, the MAC, and all equipment publications, including the depot maintenance work requirements.
- (3) Establishment and sustainment of a Stock Pile Reliability Program.
- (4) Management of the Army's SDC Program.
- (5) Providing logistics assistance representatives for major weapon systems and/or commodities of equipment.
- (6) Processing EIRs and QDRs.
- (7) Providing engineering services in support of approved MWOs.

#### **7–2. Materiel design and acquisition in support of Army maintenance**

- a.* Equipment will be designed, developed, and supported within the Army Maintenance System.
- b.* Maintenance planning and execution will be oriented toward the support of combat troops through the national system with the prime purpose of sustaining materiel to the Army maintenance standard as defined in appropriate TMs.
- c.* Equipment will be designed to permit onsite repair, through component replacement, to the greatest extent possible with a minimum of manpower, skills, support equipment, and external TMDE.
- d.* Inter-Service and contract maintenance support, including life cycle contractor support programs, will be planned and executed per this regulation.
- e.* Maintenance support will be structured on a weapon system and/or materiel end item and will conform to the Army Maintenance System.
- f.* Maintenance management and planning will maximize consistency in maintenance support between similar types of materiel.
- g.* RCM, RAM, manpower and personnel integration, and BDAR will be an integral part of logistics support planning by sustainment maintenance activities.
- h.* Use of existing Army and other service materiel and maintenance support structure will be stressed in the design and acquisition of a weapon system.
- i.* The top design priorities for supportability in the development or acquisition of new weapon systems and end items are—

- (1) Embedded diagnostics, prognostics and equipment and/or system health management and TMDE that provide accurate first time fault diagnosis for component replacement.
- (2) Modular design and discard at failure instead of repair when economically practical.
- (3) Increase mean time between failure (MTBF).

(4) Reduce mean time to repair (MTTR).

*j.* CBM+ is mandatory during the design and development phase and throughout the life cycle. CBM+ tenets include designing systems that require minimum maintenance; need-driven maintenance; appropriate use of embedded diagnostics and prognostics; improved maintenance analytical and production technologies; automated maintenance information generation; trend based reliability and process improvements; integrated information systems response based on equipment maintenance condition; and smaller maintenance and logistics support footprints. CBM+ technologies and concepts are integral to Army preventive and corrective maintenance in all Army equipment maintenance programs.

(1) TRADOC combat developers will require, through requirements documents, initial capabilities documents, capability development documents, and capability production documents that CBM+ capabilities are designed into all new weapons and/or information systems and, where possible, existing systems. These technologies will be fully implemented in the following areas:

(a) Technical literature, including electronic technical manuals (ETMs) and interactive electronic technical manuals (IETMs), for the execution of field maintenance operations.

(b) Army doctrine and training for improved methods, procedures, and CSS.

(c) Fleet life cycle management and inventory management programs at AMC integrated materiel management centers and associated program management organizations.

(2) MATDEVs will ensure that CBM+ technologies and concepts are incorporated into the design and development of new equipment and major weapon systems and upgrades of existing weapon systems and equipment end items.

*k.* Transportability/mobility will be included in the design and selection of any maintenance support equipment.

*l.* Information and reporting systems will be established to—

(1) Measure the effectiveness of materiel maintenance and management at all levels.

(2) Identify the frequency of materiel failures and effect corrective action.

(3) Develop maintenance support parameters for future materiel systems.

(4) Update the logistics database of the materiel proponent and other logistics planning elements of the Army.

(5) Compute initial repair parts required to support repair or overhaul programs for both contract and organic activities at retail and national levels.

(6) Track materiel changes.

(7) Permit serial number tracking of selected parts, components, and end items.

*m.* Modification and/or modernization of equipment by sustainment maintenance activities will be performed and reported per AR 750–10.

*n.* Maximum repair cost or maximum permissible overhaul costs and/or MEL will be established by the appropriate materiel proponent for each materiel weapon system or equipment and its subsystems, assemblies, modules, and components.

*o.* Army depot maintenance capabilities and capacities will be developed within guidelines established by DODD to—

(1) Acquire and maintain suitable levels of technical competence.

(2) Execute the depot-level maintenance workload requirements for mission-essential weapons, systems, or equipment during the life cycle.

(3) Provide technical support to all echelons of maintenance below depot, as needed.

(4) Provide for mobilization and surge requirements.

(5) Tailor FRA depot maintenance workload to a level of effort that best accommodates user needs for responsive logistics support on mission-critical systems and equipment.

*p.* Maintenance tooling, accessory shop materiel, machine tools, and TMDE will be modernized as cost effectiveness and the need for advanced technology dictate.

*q.* Acquisition, calibration, repair, and certification of TMDE will be accomplished per AR 750–43 and TB 43–180 as part of sustainment maintenance support.

*r.* Use of Army-preferred TMDE will be stressed for all levels of maintenance during the design and acquisition phases of the materiel system. TMDE used to support materiel repair will be selected per AR 750–43.

*s.* Depot-level maintenance SOR analysis will be conducted and documented as part of the Milestone B ASARC or equivalent review for Acquisition Category II and below programs for all newly acquired systems and modifications per AR 70–1.

*t.* A depot maintenance capability will be established for all newly acquired systems or modifications that have been designated as core within 4 years of initial operational capability date per AR 70–1. Core analysis procedures are outlined in appendix F of this regulation.



### 7-3. Reliability-centered maintenance

a. RCM is the process that the CAPDEVs and MATDEVs use to determine the most effective approach to maintenance. RCM involves identifying actions that, when taken, will reduce the probability of failure and which are the most cost effective. It seeks the optimal mix of condition-based actions, interval (time-based or cycle-based) actions, failure finding, or run-to-failure approach (see ADS-79E-HDBK for aircraft and/or aviation systems).

b. RCM is a continuous process that gathers data from operating systems performance and uses this data to improve design and future maintenance. The process is integrated to optimize facility and equipment operability and efficiency while minimizing life cycle costs.

c. The RCM process will be applied and implemented for systems at the earliest possible phase and across the total life cycle management structure. The life cycle manager for a system is the responsible agent to plan, develop, program, and implement RCM processes and outputs (that is, run-to-failure, failure finding, interval (time- or cycle-) based actions, and condition-based maintenance).

d. RCM will be executed using the procedures outlined in SAE JA1011 and SAE JA1012.

e. AMC LOGSA will maintain the single Army database repository for RCM data (to include CBM data). Logistics Innovation Agency is responsible for establishing and approving data migration standards from the platform to the database repository for RCM data (to include CBM data).

f. RCM is based on the following precepts:

(1) The objective of maintenance is to preserve an item's functional capabilities. RCM seeks to preserve a desired level of system or equipment functionality.

(2) The RCM process is a valuable life cycle management tool and should be applied from design through disposal.

(3) RCM seeks to manage the consequence of failure, not to prevent all failures.

(4) RCM identifies the most technically appropriate and effective maintenance task and/or default strategy.

(5) RCM is driven first by safety. When safety (or a similarly critical consideration) is not an issue, maintenance must be justified on the ability to complete the mission and finally, on economic grounds.

(6) RCM acknowledges design limitations and the operational environment. Maintenance cannot improve an item's inherent reliability. Optimally, maintenance can sustain the design level of reliability within the operating context over the life of an item.

(7) When redesign is either mandatory or desirable during the RCM process, physics of failure (PoF) can be used to cost effectively correct identified failure modes. PoF combines multiple engineering disciplines in a science-based approach to improve materiel reliability through root-cause analysis of fatigue, fracture, wear and multiple other failure mechanisms. As part of RCM, PoF can be used to rapidly identify and correct potential failure modes, and analyze failures as they occur, in order to help reduce the number of required maintenance tasks. PoF engineering analyses are critical for optimizing the overall maintenance process.

(8) RCM is a continuous process. RCM analyses should be sustained throughout the life cycle.

### 7-4. Condition-based maintenance

a. Uses primarily nonintrusive testing techniques, visual inspection, embedded sensors, and performance data to assess equipment condition (see ADS-79E-HDBK for aircraft and/or aviation systems).

b. CBM does not lend itself to all types of equipment or possible failure modes and therefore will not be the sole type of maintenance practiced.

c. The RCM process is the prerequisite to implementation of any CBM strategy and must be documented together with the decision logic used.

d. CBM implementation for systems in concept development, design, and production phases—

(1) CBM will be evaluated based upon mission requirements, performance of the system or equipment, cost effectiveness, and safety, environmental compliance, operational and logistics impacts.

(2) CBM is best implemented as early as possible in the systems life cycle to minimize costs.

e. CBM implementation for out of product systems (operation and sustainment phase):

(1) CBM will be implemented for out of production systems only when the strategy is shown to have quantifiable benefits (for example, savings, cost avoidances, productivity improvements).

(2) CBM solutions will be documented with a business case analysis in accordance with ASA (FM&C) Army C&E Economics Analysis Manual.

(3) The system life cycle manager will track CBM benefits to validate and confirm proposed cost avoidances. System life cycle managers must address the following: documentation of methods used to determine projected cost avoidance, milestones for key events in development and implementation of efficiencies, and periodic reports (format and frequency) to monitor progress of efficiencies. Future CBM efficiencies claims will have metrics addressing the following: detailed

description of goals expected, detailed evaluation plan covering data collection plan, and measures of success. System life cycle managers will document metrics in accordance with ASA (FM&C) Army C&E Economic Analysis Manual.

### **7-5. Maintenance support initiation**

During the acquisition phase of the weapon system life cycle, the MATDEV will—

- a.* Provide materiel maintenance inputs to—
  - (1) The test and evaluation master plan.
  - (2) The program management documentation, including the program acquisition plan.
  - (3) Requests for proposal, quotation, and contracts.
  - (4) Baseline cost estimates.
  - (5) The supportability strategy (SS) in accordance with AR 700-127.
  - (6) The RAM rationale report.
  - (7) The SOR analysis.
  - (8) The core determination analysis.
- 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/or logistics support concept portions of requirement documents:
  - (1) Translate system performance requirements affecting supportability into design considerations and characteristics. The MATDEV should consider RAM with specific emphasis on modularity; for example, ease and speed of replacement by user, built-in fault isolation, and design or selection of modules and parts that are operationally and economically justifiable for discard at failure.
  - (2) Design or produce embedded diagnostic, prognostic, and maintenance information systems inherent in the system, whenever possible.
  - (3) Acquire all logistics data relevant to the materiel system and its associated support items for use in the maintenance planning process.
  - (4) Plan and participate in the logistics demonstration and applicable developmental tests (DTs) and confirm adequacy of the materiel system maintenance concept and plan.
  - (5) Ensure development and fielding of system support package.
  - (6) Ensure missile stockpile reliability programs are established.
  - (7) Manpower evaluation report.

### **7-6. Establishing and sustaining maintenance support requirements**

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 and/or constraints to the system acquisition plan and contract acquisition package.
- c.* Develop the maintenance aspects of the logistics support system including BDAR.
- d.* Participate in the test and evaluation integrated product team and provide requirements to test planners for use in DT and/or OT and for evaluating the system support package.
- e.* Prepare and execute the maintenance portion of the 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 depot level, for use in establishing life cycle estimates to support development of new weapons and/or 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 and the MAC per SAE JA1011 and SAE JA1012.
- k.* Identify and budget for DMPE (and FRA).
- l.* Establish and conduct pilot industrial base maintenance programs.
- m.* Develop and update technical criteria to prescribe the scope, depth, and frequency of inspection and maintenance operations to be performed on materiel systems. Technical criteria for the performance of maintenance operations will—

- (1) Be established on the basis of quantitative control parameters, operating time, miles traveled, rounds fired, usage rate, local environmental conditions, elapsed calendar time, equipment conditions, or a combination of any of the preceding.
- (2) Be published in technical publications.
- (3) Be evaluated periodically and changed, as required.
- (4) Be used to determine economic repair or replacement of equipment.
- (5) Prescribe guidelines for inspection, reclamation, condemnation, and demilitarization of equipment.
- (6) Identify items requiring float support and compute initial float factor.
- (7) Identify items requiring an MEL and demilitarization instructions.

## **7-7. Commercial-off-the-shelf equipment maintenance**

*a.* Contractors, DA civilians, and local national augmentation may be used in a supporting role to meet the defense objective of ensuring that enough trained personnel are available to maintain the DOD-wide force and support structure per AR 70-1, AR 700-127, and the requirements of this regulation.

(1) Military personnel will perform maintenance in combat or hazardous duty areas as much as possible. The employment of civilians in hazardous duty areas for the performance of maintenance of field equipment that can be maintained by a Soldier is strongly discouraged.

(2) Where conditions are not conducive civilians will not be permanently stationed in combat areas or hazardous duty areas as determined by the combatant commander (see AR 715-9). Civilians may travel forward to a brigade combat team operational area on a case-by-case basis as individual equipment failures occur to provide temporary onsite maintenance and technical advice, for example, sustainment-level maintenance assistance teams and modification application teams.

(3) Outside the brigade operational area, in addition to military personnel, civilian maintenance personnel (contract, TDA, and local nationals) may be acceptable as a prudent risk on the probability of maintenance services being continued in wartime and in support of other contingency operations.

*b.* The Army will rely on the competitive private enterprise system, both U.S. and foreign, for maintenance support service to the maximum extent that is consistent with effective and efficient accomplishment of Army programs and missions.

*c.* The use of foreign private enterprise will be limited to the following situations:

- (1) DOD organic or DOD contract maintenance support activities lack the capacity to perform the task in the time required.
- (2) Use of foreign private enterprise has been predetermined by international agreement.
- (3) Use of foreign private enterprise will not affect the development or maintenance of U.S. national capabilities.
- (4) The use of foreign contractual services will be contingent on U.S. contracting authority certification of quality, capability, and capacity.

*d.* Contract maintenance will not be used when—

- (1) In-house activities are necessary for individual and unit training of military personnel.
- (2) Contract maintenance support will result in higher cost of current maintenance support to the Army than organic support.
- (3) The product or service is available from another DOD component or other Federal department or agency.

## **7-8. Planning for contractor support, fielding, and/or post fielding**

*a.* Logistics support of Army materiel performed under contract by commercial organizations, including the original manufacturer, is considered contractor support. Support may include materiel and facilities as well as services such as maintenance, supply, distribution, training, software support, repair, overhaul, and the collection and development of maintenance data as required. Contractor maintenance will not normally be allowed to perform field maintenance tasks except the following:

- (1) To address manpower requirements criteria shortfalls during peacetime operations.
- (2) To address HQDA approved maintenance programs such as reset.
- (3) To support equipment services when the equipment maintenance plan designates contract support as part of the materiel acquisition strategy.

*b.* The decision to use contractor maintenance support is accomplished as part of the SOR analysis during the ILS process in accordance with AR 700-127 and must be documented as part of the Milestone B ASARC. The plan for use of maintenance CLS will include a plan for the capture of contractor man-hours expended in support of Army equipment.

*c.* Proposals for contract maintenance support of classified equipment will adhere to the following:

- (1) All contract maintenance support of COMSEC, SIGINT, and EW equipment must undergo an assessment of risks to national security before a cost study is performed to use commercial maintenance sources. The installation security

manager in coordination with the ACOM, ASCC, and DRU security and commercial activity managers must conduct this special risk assessment. HQDA, NSA, and the AMC LCMC NMP must approve this assessment and selection of a contractor facility. The proposal, including PWSs with additional information identifying the COMSEC and/or SIGINT and EW equipment, density supported, and levels of maintenance to be performed, will be submitted through the appropriate AMC LCMC and DCS, G-3/5/7 (DAMO-FDI), 400 Army Pentagon, Washington, DC 20310-0400, to the Director, NSA (S-04), Fort Meade, MD 20755-6000.

(2) Classified equipment not under NSA cognizance being considered for maintenance support contracts to contractors other than original equipment manufacturers will be given an assessment of risk as prescribed above.

## **7-9. Depot maintenance source of repair selection**

Depot maintenance SOR will be made in accordance with paragraph 5-7 of this regulation.

## **7-10. Maintenance support plan**

a. Maintenance is an integral element of the SS (see AR 70-1, AR 700-127, and AR 700-139). The MSP is a portion of the SS. The SS is prepared before Milestone B in the materiel acquisition process. It is updated and expanded periodically as the system matures during the life cycle.

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

- (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 ready to right, maintenance float, warranty, AOAP, total package fielding, weapon system designator code, MEL, and demilitarization instructions.

c. The determination of the repair level within the Army Maintenance System is an essential element of the LMI. LMI will include analysis as required by AR 700-127. LORA is used to determine the optimum maintenance levels for repair actions and recovery of the end item and components. The LORA considers availability or requirements for additional tools, support equipment, and skills in intended supporting units. The LORA should address the requirement to minimize additional special tools and test equipment for new equipment. As part of the post deployment evaluation, the LORA will be rerun no earlier than 1 year and no later than 3 years from the unit-equipped date, using actual reliability data from fielded equipment. The LORA will be rerun every 5 years throughout the equipment life cycle. The MACs will be updated to reflect any changes in the LORA outcome. The guidance in chapter 3 of this regulation applies in allocating maintenance operations and resources.

d. The following describe the MAC:

(1) The MAC is an output of the LORA and reflects the approved maintenance concept for an end item and/or weapon system or subsystem. It specifies the lowest level of the Army Maintenance System authorized to perform complete repair of a specific maintenance task.

(2) The preliminary MAC should be included in the MSP. As the acquisition program progresses, and both design and support planning becomes firmer, the MAC will be updated and, if appropriate, included in the updated MSP.

(3) Draft MACs and revised MACs will be coordinated with the combat developer, to include the surface maintenance support proponent, (appropriate TRADOC activity) to assure that support planning complies with the system maintenance support concept and permits TRADOC to make adjustments, as needed.

(4) All final draft MACs and revised MACs will be approved by Headquarters, AMC with concurrence from TRADOC.

## **7-11. Depot maintenance support plan**

a. The purpose of a DMSP, an integral part of the SS, is to ensure provisions for required depot maintenance. This plan identifies all installations and FRAs 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 acquisition of peculiar depot maintenance equipment, facilities, TMDE, and personnel training.
- c.* The DMSPP encompasses all phases of the life cycle of an item of new materiel. The DMSPP is updated as changes become necessary.
- d.* Consideration will be given to the use of inter-Service support to provide maintenance support services per chapter 4 of this regulation.
- e.* Full depot maintenance support will begin by IOC for all items identified as depot-level reparable. If organic support will not be available by IOC, then interim contractor support is allowed up to 4 years.

#### **7–12. Logistic management information**

- a.* The LMI is a planned series of tasks performed to examine all elements of a proposed system and to influence the design so that the system and support can be provided at an affordable cost. RCM is an element of this process. RCM will be applied to all acquisition programs as part of logistics support analysis.
- b.* The RCM will be used to establish a systematic approach for identifying and developing scheduled and/or preventive maintenance tasks. The program will be monitored to ensure continued update of scheduled and/or preventive maintenance requirements based on design change, tools or maintenance concepts, or structure of maintenance units.
- c.* Maintenance support costs related to weapon system data or equipment end-item system performance data will be analyzed as part of the LMI process during acquisition. The LMI process will be extended in enough depth to provide a database that will identify skills and any supplementary training materiel required.
- 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 LMI requirements considering the ILS elements. MATDEVs will coordinate logistics information they develop with maintenance activities.

#### **7–13. Warranty application during acquisition**

- a.* The decision to have warranty coverage for new equipment is to be made early during the acquisition program. Warranties will be for the minimum time period sufficient to allow for obtaining the necessary tools and the training of personnel. An analysis must be performed and documented to ensure the warranty supplied is the most cost-effective alternative. Contract warranty requirements should conform to the established logistics support concept for the materiel to avoid unnecessary costs during early logistical support of systems. Warranties will be developed and administered per AR 700–139 and the FAR.
- b.* The MATDEV will ensure warranty information is provided to the field and will be included as summary information on BOIP feeder data for use by the documentation community.
- c.* DA Pam 738–751 and DA Pam 750–8 contain instructions for submitting warranty claim actions.

#### **7–14. Maintenance equipment publications**

- a.* Maintenance requirements are to be developed, coordinated, published, and updated for each materiel system and supporting TMDE in technical and equipment publications primarily electronic media format known as ETMs and IETMs.
- b.* Equipment publications provide technical guidance for the operation, evaluation, maintenance, and repair parts support of the materiel system, including modifications and BDAR.
- c.* Equipment technical publications will delineate and describe, as applicable—
  - (1) Each maintenance task (scheduled and unscheduled).
  - (2) The materials, standard time, and workmanship required.
  - (3) Methods and practices to be used in completing maintenance tasks.
  - (4) Safety and other precautions to be observed.
  - (5) Wear limits, fits, tolerances, and other inspection criteria.
  - (6) Calibration requirements for special and general-purpose TMDE.
  - (7) Desired post-repair operational performance standards.
  - (8) Nuclear hardness maintenance and 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 the specific vehicle and components.

*d.* Procedures will be written in enough detail to establish technical competence required in each level of maintenance operation. Requirements to repair to the national maintenance standard for field reparables will be developed in accordance with the best commercial practices and published as a NMWR or other applicable TM and coordinated with the quality assurance and safety activities.

*e.* Requirements for depot maintenance will be developed in accordance with best commercial practices, coordinated with the quality assurance and safety activities, and published as a depot maintenance work requirement.

*f.* Contractor support will be considered only if the SOR analysis shows it to be the most cost-effective method for depot support per AR 700–127. The use of contractor manuals will be considered if they meet the overhaul and recapitalization requirements before developing NMWRs or modifying depot maintenance work requirements and developing or modifying depot capability.

*g.* All maintenance requirements and tasks will be developed per RCM principles to ensure preservation of inherent design reliability and safety at least expenditure of resources at all levels of maintenance. The RCM program is concerned with identifying those design practices that minimize preventive maintenance workload and avoid those that increase it. The RCM analysis furnishes initial scheduled maintenance requirements based on engineering information.

*h.* PMCS tables provide operator and/or crew and using field maintenance personnel with technically sound guidance for determining and preserving full mission capability of their equipment. They are to be prepared per RCM principles. PMCS task times will be recorded and maintained in the logistics database or other systems, as appropriate.

*i.* Equipment for which standard TMs have not been developed will conform to established maintenance quality requirements. AR 385–10 lists safety checks that must be included in establishing maintenance requirements.

*j.* Scheduled and/or preventive maintenance of any kind is RAM-related support concept. The purpose of scheduled and/or preventive maintenance is to avoid premature failure of equipment and sustain the inherent reliability designed and manufactured into the equipment. Scheduled maintenance programs for weapon and equipment end items will be developed, applied, and managed by all MATDEVs using RCM.

*k.* Age exploration is that part of the RCM program that occurs after fielding. It is intended to update, as necessary, the initial scheduled maintenance requirements.

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

(2) An age exploration program will be established to address the following steps that make up the program:

(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 expenditure limits in TBs.

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

*l.* Equipment publications are essential segments of the support systems for all materiel systems. These publications are also a part of the system support package and are tested during DTs and OTs. Publication adequacy will be addressed in test reports.

*m.* Over the materiel life cycle, LMI will be used as source data for developing and updating equipment publications. Those source data will also be used in preparing and updating work measurement standards, manpower support requirements, quality assurance criteria, methods and standards, and depot maintenance work requirements and/or NMWRs.

*n.* Equipment publications will be developed and updated by publication personnel and published for items, as applicable. MWOs will be prepared to authorize application of mandatory modifications to equipment. Depot maintenance work requirements will be prepared only for materiel for which depot maintenance functions are listed in the MAC. The MATDEV will verify equipment publications in coordination with the appropriate TRADOC proponent school to ensure contractor compliance with contract requirements. User concerns regarding incomplete or faulty publications will be resolved prior to printing.

*o.* The repair parts and special tools list and narrative portion of the equipment publications will support and be consistent with the MAC. The list will show all materiel that may be stocked as authorized stockage list and/or PLL materiel by NIIN.

*p.* Maximum use will be made of 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 and within the focus of the Joint Computer Aided Logistics System. 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, will determine when COTS and NS-E manuals are acceptable for maintenance purposes. Procurement of NS-E manuals and supplemented manuals is prescribed in AR 25–30. NS-E manuals may be used during testing and evaluation when it has been determined that these are adequate for field use per AR 25–30 and MIL-PRF-32216A. COTS and NS-E manuals will be 100 percent hands-on verified by TRADOC target audience Soldiers to ensure their usability in the military environment.

g. All equipment publications will be coordinated with the appropriate materiel safety director to assure that proper warnings, cautions, and limitations have been included.

r. Materiel procured and managed by DLA or the GSA will be included in TBs by the appropriate Army supply class manager.

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

t. TMs will be provided in electronic formats known as ETMs and IETMs. These media increase efficiency, reduce operations and sustainment costs, leverage CBM+ capabilities on major weapon system platforms and equipment, and reduce paper requirements.

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

(2) The Army will provide a maintenance support device for using ETMs and IETMs. TRADOC 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 mobile support device. These devices will have several capabilities, to include the ability to—

(a) Run and/or play an ETM or IETM.

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

(c) Run a portion of TAMMS (SAMS-E and GCSS-Army) at the mechanic level and/or technician level.

(d) Leverage all CBM+ technologies and concepts.

(3) Paper TMs are intended for all operator manuals, wiring diagrams or schematics, firing tables, safety of use and/or flight TBs, and pre-combat and/or flight checklists. These items will be reevaluated periodically to assess improvements and feasibility of emerging technology.

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

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

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

(1) All overhaul, rebuild, and of equipment regardless of commodity will be defined as depot-level maintenance to the extent that this does not include TM 10–XX series and TM 20–XX series (field and sustainment) maintenance requirements. 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.

(2) Depot maintenance work requirements will be verified by the system proponent as indicated in section II of the SS.

(3) Depot maintenance work requirements will be maintained by the system proponent to agree with the latest technical data package.

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

v. NMWR will be available for the performance of sustainment maintenance as directed by the NMM. All Class IX repairs directed by the NMM, regardless of commodity, will be defined as sustainment maintenance.

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

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

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

(4) Mandatory parts replacement lists published in the NMWRs will have SOS validated prior to publication.

w. It is the responsibility of the MATDEV to fund the verification effort for all equipment publications, including funding for user representative involvement.

## **7–15. Multimedia use in interactive electronic technical manuals**

a. Where cost effective, multimedia will be used to enable completion of complex tasks. The proponent for each weapon system or subsystem along with subject matter experts from TRADOC will establish the specific instances where enhanced

functionality will be incorporated into the associated IETM. Example criteria are provided in paragraphs below. Multimedia capabilities can consist of, but are not restricted to, the following:

(1) Interactive electronic technical manual multimedia. Multimedia, to include animation, virtual three-dimensional navigation, and video may be used to augment the narrative text of IETMs. The value and clarity added to IETMs by using multimedia will assist maintainers to more clearly understand the task at hand and save man-hours that would otherwise be used researching unfamiliar tasks. The intent of using this enhanced functionality is to provide the maintainer with the requisite and pertinent information, prior to task initiation, through judicious and cost effective application of multimedia, to augment carefully selected tasks.

(2) Animation. This functionality will provide graphical components movement to represent actual function. Animation may be included to show a variety of system functions from theory of operation to maintenance procedures. Animation will not be the primary instruction to perform the task, but will be a supplement to narrative instructions.

(3) Three dimensional. This function is the use of solid object graphical figures to show virtual assembly, disassembly, removal and installation of parts. Levels of capability may include fly through (navigation through a three-dimensional model) type viewing. Three dimensional will be suited to the media on which it will be presented and not presented in IETMs designed for small screens such as Personal Digital Assistants. Three dimensional will not be the primary instruction to perform the task, but will be a supplement to narrative instructions.

(4) Motion video. This functionality may provide video clips to assist in the maintenance action. Motion video may be used to show a unique procedure. Motion video will not be the primary instruction to perform the task, but will be a supplement to the narrative instruction.

b. Use of multimedia should be considered for use in complex and difficult tasks to enhance the maintainers understanding of the task. Complex and difficult 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—may include any task that the maintainer does not perform routinely such as removing the air conditioner condenser on the M1114 and/or M1151. Since this is done infrequently, maintainers tend to forget how fragile the refrigerant lines are and tend to break them.

(2) Hydraulic flow—may include tasks that require multiple reconnection of lines and the release of air in the lines. Changing the power steering pump on the M1151 emerged as a difficult task for inexperienced mechanics during Operation Enduring Freedom and Operation Iraqi Freedom. The pump is different from the one on a M998 and is difficult to bleed off air if the maintainer is not aware of the differences.

(3) Troubleshooting and/or fault isolation—may include fault isolation on wiring diagrams, circuit cards, or connection circuits; this may be appropriate to show when switches should be activated or deactivated.

(4) Difficult to access tasks—may include tasks that require the removal of major items to gain access to the item needing repair or replacement.

(5) Software navigation—may include tasks that has software embedded in electronic components such as radios and requires manipulation through buttons, switches, or knobs.

c. Prior planning and approval is essential to the effective, efficient and affordable use of multimedia. Close coordination between the acquisition, sustainment and user communities, undertaken before development begins, is critical to the successful and cost effective use of this technology.

(1) During the development of IETMs, Government-owned or free runtime display software must be used. This will continue to be the policy when using multimedia.

(2) A waiver from AMC is required before using proprietary and/or licensed runtime display software. Develop waiver requests to: Commander, AMC LOGSA (AMXLS-AP), Redstone Arsenal, AL 35898-7466.

## **7-16. Maintenance and/or service kits**

Maintenance and/or service kits will be used to optimize the delivery of maintenance services throughout the Army force structure. MATDEVs and Commander, AMC will ensure that aggregations of repair parts, special tools, maintenance-related supplies, and other items are compiled into an array of kits in support of each Army equipment platform.

a. Kits will be designed to increase Soldier and/or maintainer efficiency, reduce TAT, ease handling of items, and assist the Warfighter in achieving readiness objectives in AR 700-138.

b. MATDEVs and the Commander, AMC will conduct annual reviews of readiness data available at AMC LOGSA and adjust maintenance kit support as required to support deployed forces.

c. Combat and training developers will integrate the use of maintenance kits into doctrine and training programs.

d. Stockage of maintenance kits by field organizations will meet the demand criteria outlined in AR 710-2.



### **7-17. Initial provisioning**

Initial provisioning is a management process for determining and acquiring the range and quality 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 TechAmerica Government Electronics & Information Technology Association-Standard-0007.

- a.* The selection and assignment of spares and repair parts to the levels of maintenance will be accomplished per guidance in AR 700-18 and AR 700-82 using data developed through the logistics support analysis process.
- b.* Selection and coding assignment must be according to the maintenance concept, the maintenance plan, and the MAC.
- c.* Source, maintenance, 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 TechAmerica Government Electronics & Information Technology Association-Standard-0007.
- e.* Maintenance task distribution will be developed by using the MAC, maintenance level workload capability, and latest repair TATs (see AR 700-18).

### **7-18. Logistics demonstration**

*a.* Maintenance support tests, demonstrations, and evaluations will be conducted for materiel during acquisition, including materiel undergoing major modifications. They will constitute the major portion of the overall equipment testing for logistical supportability. The purpose of logistics demonstration testing is to assure that the materiel, with the support that will be available in the field, can be properly and safely maintained in its intended operational environment according to the approved maintenance and/or logistical support concept. Tests and evaluation will also serve to verify adequacy of the maintenance portion of the system support package, manpower requirements data, and compatibility with designated TMDE.

*b.* Responsibilities for initiating, planning, programming, conducting, and reporting DTs and OTs are covered in AR 73-1. Maintenance test, evaluation, and demonstration requirements are implemented through the ILS process in AR 700-127.

### **7-19. Materiel release and fielding**

*a.* 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. Materiel fielding is the process of planning, coordinating, and executing the deployment of a materiel system and its support. AR 700-142 covers the policy for these programs. DA Pam 700-142 contains instructions, formats, reporting requirements, and schedules used to carry out the policies.

*b.* Maintenance activities within materiel proponents will comply with policy and procedures in the publications referenced above to ensure that—

- (1) Materiel is available for test and evaluation by U.S. Army Test and Evaluation Command to ensure that all established requirements and specifications are met.
- (2) NET has been accomplished.
- (3) Organic Army support has been established or contractor support is available.
- (4) Verified DA equipment publications or authenticated and verified COTS manuals are available.
- (5) Necessary support equipment, special tools, and TMDE to support the new item are available.
- (6) Army interoperability certification and applicable IA accreditation(s).

### **7-20. Planning, programming, and budgeting for systems technical support and sustainment systems technical support**

*a.* During the development and production phases of the weapon system life cycle, STS will be planned, programmed, and budgeted for by the PM of the weapon system. STS will be funded with procurement dollars.

*b.* Commencing with the first full FY after production ends, STS will transition, with funding, to SSTS and will be planned, programmed, and budgeted for by the supporting AMC MSC. SSTS will be funded with OMA dollars. STS funding will transition from procurement to OMA concurrent with the transition of programming responsibility from the PM and/or PEO to AMC. The PM, as the total life cycle systems manager and in collaboration with the AMC, is responsible for presenting all sustainment cost estimates for their systems and providing to DCS, G-4 (Maintenance Directorate) for inclusion in the sustainment program evaluation group as part of the POM submission.

c. For those weapon systems currently managed by PEOs and/or PMs that are forecasted to go out of production during the POM years, the PEOs and/or PMs will develop weapon system schedules in coordination with the gaining AMC MSC. PMs will develop a process to track and monitor STS costs prior to the system transitioning from production to operations and support so that data can be used as baseline information for SSTS projected requirements during the validation process. For programs being terminated, program termination plans will include all total life cycle considerations with commensurate resourcing requirements for areas, such as SSTS, post-production software support, and all depot maintenance.

d. SSTS requirements will be developed by weapon system and function (logistics assistance representatives) and/or type of program (such as SDC). The AMC MSCs will validate and certify all SSTS requirements and cost estimates, whether contractual or organic, prior to submission. Annual HQDA onsite reviews are conducted with MSCs to assist in the validation process. Supporting documentation used in support of the MSC SSTS requirements validation will be retained for HQDA review. Supporting documentation will show how the work was quantified in terms of both workload (such as hours, quantities, and tasks) and associated costs. Examples of supporting documentation include workload and cost projections derived from estimating tools such as engineering estimates, models and simulations. The MSC commander will certify in writing the SSTS requirements for submission to AMC. AMC will compile the MSC data for submission to HQDA in support of the POM each year, and the Commander, AMC or a designated representative will certify in writing the SSTS POM submission. The documentation will include an accounting of the execution of SSTS dollars by spending category against those dollars originally budgeted.

e. The latest DCS, G-3/5/7 prioritization guidance for sustainment of fielded equipment will be used, and a priority will be assigned based on the criteria established in the guidance. Funds will be applied in priority order. AMC will provide justification for any deviation. A copy of the latest prioritization guidance may be obtained from DCS, G-3/5/7 (DALO-SMM), 500 Army Pentagon, Washington, DC 20310-0500.

## **Chapter 8**

### **Maintenance Programs**

#### **8-1. Maintenance Award Program**

a. Chief of Staff, Army Award for Maintenance Excellence Program.

(1) Purpose. The Chief of Staff, Army Award for Maintenance Excellence (AAME) Program is conducted each year to recognize Army units and/or activities that have demonstrated excellence in maintenance operations.

(2) Objective. The objectives of the AAME Program are to—

- (a) Improve and sustain field maintenance readiness.
- (b) Assess the maintenance component of unit readiness.
- (c) Improve efficiency and reduce waste.
- (d) Recognize outstanding maintenance accomplishments and initiatives.
- (e) Ensure the best units compete.
- (f) Promote competition at ACOM, ASCC, DRU, HQDA, and DOD levels.

(3) Responsibilities.

(a) The Chief of Staff, Army has delegated the awards ceremony down to Senior Commander. The Senior Commander will present the AAME plaques to the winners for their superior maintenance operations.

(b) The DCS, G-4 will—

- 1. Provide program funding guidance, policy, and overall supervision of the program.
- 2. Determine the most appropriate means of award presentation and coordinate the annual award ceremony.
- 3. Conduct the Army board that selects 6 nominees to the SECDEF Maintenance Awards Program.

(c) The Commander, U.S. Army Ordnance School (USAOS) will—

- 1. Serve as responsible official for administration of the AAME Program.
- 2. Assist the DCS, G-4 in the development and coordination of updates and modifications to policy and administrative instructions.
- 3. Develop, revise, and maintain security of assessment protocols used to select semifinalists, runners-up, and winners.
- 4. Convene the HQDA assessment board and conduct onsite evaluation team visits.
- 5. Assist the DCS, G-4 in determining the most appropriate means of award presentation and coordinating the annual award ceremony.

6. Host an annual after action review (AAR) with DCS G-4, ACOM, ASCC, and DRU representatives.

(d) ACOM, ASCC, and DRU commanders will—

- 1. Promote competition at all levels of command and develop awards to recognize units and/or activities participating in all levels of the competition process.

2. Validate, select, and endorse nomination packets submitted by subordinate organizations in accordance with appendix D and forward to USAOS.

(e) The TRADOC, CNGB, and Office of the Chief of Army Reserve commanders will provide board members and onsite evaluation team members to support the assessment process as required by the USAOS.

(f) Commanders (or equivalent) will conduct their programs within the guidelines established in this paragraph and in the official USAOS website (<http://www.goordnance.army.mil/aame/aame.html>).

(4) Categories of competition.

(a) Categories of TOE and /or MTOE competition are based on unit-authorized personnel. The categories are—

1. Small (10 to 100 authorized personnel).
2. Medium (101 to 300 authorized personnel).
3. Large (301 or more authorized personnel).

(b) The four component competition areas are—

1. Regular Army TOE and/or MTOE unit.
2. ARNG TOE and/or MTOE unit.
3. USAR TOE and/or MTOE unit.
4. Active TDA unit (military/civilian organization) (Single category).
5. Aviation. (Single category)
6. All others (LRCs, TMPs, and all organizations which are not in the MTOE or TDA category) (single category).

(5) Command nomination process.

(a) Nominations will be accepted from the following ACOMs, ASCCs, DRUs, commands, field operating agencies, and direct reporting units:

1. Eighth, U.S. Army.
2. U.S. Army, Europe, and Seventh Army.
3. FORSCOM.
4. U.S. Army Pacific.
5. NGB-an ACOM.
6. USARC.
7. INSCOM.
8. MEDCOM.
9. AMC.
10. U.S. Army Military District of Washington.
11. U.S. Army Surface Deployment and Distribution Command.
12. U.S. Army Special Operations Command.
13. TRADOC.
14. U.S. Army Criminal Investigations Command.
15. U.S. Army Corps of Engineers.
16. U.S. Army Space and Missile Command.
17. Cyber Command.
18. IMCOM.

(b) The number of nominations that may be submitted by an ACOM, ASCC, and DRU is limited, as follows:

1. There will be one category for the aviation maintenance competition. The aviation category is open to AC, RC, and NGB agencies. Whether small, medium or large units, all are eligible to compete in this category.

2. The USARC may submit 20 nominations for the USAR TOE and/or MTOE competition: 9 small, 9 medium (Large units are included in the medium category), and 2 aviation units. ACOMs, ASCCs, and DRUs with USAR units mobilized and within their AO must submit nominations through USARC and will count against total submissions by category.

3. NGB may submit 20 nominations for the ARNG TOE and/or MTOE competition: 9 small, 9 medium (Large units are included in the medium category), and 2 Aviation units. ACOMs, ASCCs, and DRUs with NGB units mobilized and within their AO must submit nominations through NGB and will count against total submissions by category.

4. Each Regular Army ACOM, ASCC, and DRU other than FORSCOM may submit 8 nominations for the Regular Army TOE and/or MTOE competition: 2 small, 2 medium, 2 large, and 2 Aviation units, except FORSCOM which may submit a total of 11 3 per category and 2 Aviation nominations. Deployed combat aviation brigade units may be submitted by the command they are attached to.

5. Each ACOM, ASCC, and DRU may submit 20 nominations for the TDA competition: There will be one category for the TDA maintenance competition. The TDA category is open to ACOM, ASCC, and DRU agencies. Whether small, medium or large units, all are eligible to compete in this category.

6. Each ACOM, ASCC, and DRU may submit 6 nominations for the “all others” competition. The “all others” category is civilian only units/activities, whether supporting installations or geographical areas of responsibility. There will be one category for the “all others” maintenance competition. This category is open to ACOM, ASCC, and DRU agencies. Whether small, medium or large units, all are eligible to compete in this category. Categories with two nominees will be allowed to compete at the Army level.

(c) The program is designed to assess the unit’s maintenance operations at division, brigade combat team, battalion, company, battery, troop, equivalent MTOE, and/or TDA organizations. Parent units (for example, brigade and battalion) that compete must address all subordinate elements in their nomination packages. As such, subordinate elements of a parent unit will not be permitted to compete separately if the parent unit competes. When all subordinate elements of a parent unit compete, the parent unit will compete as a single entity. In the event a parent unit is selected as a semifinalist, all assigned elements are subject to evaluation during the onsite assessment.

(d) With the approval of the responsible ACOM, ASCC, and DRU commander, detachments that meet all other requirements of this regulation and that are assigned field maintenance functions may compete. Detachments, teams, or other elements that are temporarily separated from the parent organization will compete as part of their parent unit and not as a separate entity.

(e) Units that have effective date changes to their MTOE or TDA during the competitive FY will be assessed on the MTOE and/or TDA under which they were organized for the greatest part of the year. Commanders should note MTOE and/or TOE changes in their comments. Units with an augmentation TDA to their base TOE will compete in the category (MTOE or TDA) that authorizes the largest number of personnel. The total number of authorized personnel on both documents will determine the size category in which the unit must compete.

(6) Submission of nomination packages.

(a) Instructions for preparing and submitting the AAME nomination package are listed in the official USAOS website (<http://www.goordnance.army.mil/aame/aame.html>).

(b) Units will submit packets through command channels to their appropriate ACOM, ASCC, and DRU.

(c) ACOMs, ASCCs, and DRUs will review and select those packets to be nominated to the HQDA-level AAME competition in accordance with instructions and criteria in the official USAOS website (<http://www.goordnance.army.mil/aame/aame.html>). If selected to represent the ACOM, ASCC, and DRU, ACOMs, ASCCs, and DRUs will then endorse and forward the original packets for each unit and/or activity nominated to arrive at the U.S. Army Ordnance School (USAOS) no later than close of business the first Friday in November following the FY of competition.

(d) Submission of nomination packages to the USAOS constitutes consent for an onsite evaluation of the unit’s maintenance program as articulated in the nomination packet.

(7) Headquarters, Department of the Army evaluation process.

(a) Phase I: Submission of Army Award for Maintenance Excellence nomination packets.

1. USAOS will convene an evaluation board and appoint an appropriate chairperson.

2. The board members will be drawn from TRADOC service schools, Office of the Chief of Army Reserve, NGB, and other special activities. Members will have both a proven performance record and expertise in maintenance. Personnel will be in the grades of master sergeant through sergeant major, chief warrant officer two through chief warrant officer five, and captain through lieutenant colonel or civilian equivalent.

3. 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 12 competition categories.

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

1. USAOS will appoint two onsite evaluation teams: Active, USAR TOE and/or MTOE, TDA and all others, ARNG TOE and/or MTOE and TDA.

2. The team members will be selected from TRADOC schools, Office of the Chief of Army Reserve, NGB, and other special activities. If possible, members will be selected from the phase I evaluation board or have previous experience in conducting AAME onsite evaluations.

3. Using the phase II evaluation guidelines and/or scoring criteria, the onsite teams will evaluate each semifinalist unit.

(c) The phase I and II results. Results will determine the winner and runner-up in each of the 12 competition categories. Units must meet a minimum of 70 percent to be eligible to compete in the Phase II on-site evaluation. The top two-three units in each category meeting the minimum score will receive a Phase II on-site evaluation. Units must meet a minimum of 70 percent during the Phase II evaluation. The unit with the highest score above 70 percent will be considered the winner and the second highest score above 70 percent will be considered the runner-up.

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

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

(8) Publicity.

(a) To enhance recognition of AAME winners and promote participation in the process, all levels of command should aggressively publicize the program. This may be accomplished through public affairs officers and may include announcements of winners in local newspapers, hometown news releases, and background information about the Army-wide aspects of the AAME Program and its positive impact on unit combat readiness.

(b) The USAOS will ensure that its public affairs office is continually notified of AAME events and achievements.

(c) Commanders will submit publicity information and photographs for historical purposes to the Commander, U.S. Army Ordnance School (ATSL–AAME), 2221 Adams Ave Fort Lee, VA 23801.

(d) Photographs taken at the AAME award ceremony will be sent to the ACOM, ASCC, and DRU for distribution to all awardees.

(9) Program milestones. The USAOS will—

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

(b) Convene the HQDA Phase I Evaluation Board during the second quarter.

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

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

(e) Conduct ACOM-level, ASCC-level, and DRU-level AARs during the second quarter.

b. Secretary of Defense Maintenance Award Program.

(1) The SECDEF Maintenance Award Program annually recognizes the top six field maintenance units and one organic depot across all military Services. The AAME Program and AMC depot competition are used as the gateway to determine the SECDEF Maintenance Award Program submissions for the Army.

(2) Army nominees are selected from among units that competed and were selected as AAME winners and /or runners up. The top AAME winners and/or runners-up will be the Army's nominees for the SECDEF Maintenance Award Program. Army units and AMC depots must compete and be selected winners in the AAME Program to be nominated for the SECDEF Maintenance Award Program.

(3) The selection board will nominate two AAME winners in each of the three categories as follows:

(a) Small: 10 to 100 authorized personnel.

(b) Medium: 101 to 300 authorized personnel.

(c) Large: 301 or more authorized personnel.

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

(5) The SECDEF Maintenance awards are presented to the two top units in each of the three field categories and one organic depot in the depot category. The SECDEF Phoenix trophy is awarded to the best of the six field-level units. The Robert T. Mason Award for Maintenance Excellence trophy is awarded to the best organic depot.

## 8–2. Army Oil Analysis Program

The objectives of the 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 (OCOC) policy. 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 and/or prognostic maintenance processes.

a. Program policies.

(1) The AOAP PM manages the Army's oil analysis program. Enrollment in the AOAP is mandatory for all Army aircraft, combat vehicles, watercraft, and locomotives unless the DCS, G–4 approves the exception. Selected nonaeronautical equipment may be enrolled in the AOAP on a case-by-case basis, when resources are available. For a list of equipment and components enrolled in the AOAP, see TB 43–0211 or the AOAP website at <https://liw.logsa.army.mil>.

(2) AOAP daily operations and capabilities will be executed between the laboratory and the customer unit.

(3) Field maintenance units must promote and use OCOC as recommended by the AOAP to the highest extent possible. If OCOC is not followed, reasons for not doing so must be provided to the ACOM, ASCC, and DRU for approval and

subsequently coordinated with the AOAP Program Management Office. OCOC eliminates unnecessary changing of component oil based on a schedule of hard-time intervals, as currently specified by LO. The OCOC policy does not replace or modify procedures for equipment under manufacturer's warranty.

*b. ACOMs will—*

(1) Ensure subordinate commands participate in the AOAP.

(2) Coordinate all requirements for lubrication analytical devices and/or instrument procurements with AMC LOGSA PM AOAP.

(3) Ensure resources are available for the winterization of equipment being transferred to geographic regions where temperatures from -25 Fahrenheit to -50 Fahrenheit are likely.

(4) Ensure each organization owning enrolled equipment appoints an AOAP monitor who will ensure that subordinate units—

*(a) Implement AOAP procedures within the command.*

*(b) Ensure AOAP monitors are trained by the supporting AOAP laboratory staff or through a training program approved by the PM AOAP.*

*(c) Ensure AOAP enrolled equipment and component oil samples are submitted to the regional oil analysis laboratory.*

*(d) Ensure personnel are properly trained in AOAP procedures.*

*(e) Ensure subordinate units record a laboratory-identified deficiency in equipment maintenance records. Units will notify the laboratory, on DA Form 3254-R (Oil Analysis Recommendation and Feedback), within 5 days of maintenance action taken.*

*(f) Ensure units incorporate AOAP processes in local SOPs. AOAP procedures are outlined in DA Pam 750-8 and DA Pam 738-751. Laboratory products and services are identified in TB 43-0211.*

(5) Incorporate quality assurance provisions and technician qualification required by the AOAP PWSs in the statement of work used in solicitation documents for contract operation of AOAP laboratories. Contracting officers reviewing vendor proposals for AOAP laboratory operation will be required to obtain PM AOAP technical review and approval prior to acceptance of the proposal.

(6) Sustain the mobile AOAP laboratories upon arrival in the ASCC AOR based on DCS, G-3/5/7 approval of deployment.

*c. Unit tactical deployment.*

(1) The AOAP laboratories, positioned on a regional basis, will provide AOAP daily operations and capabilities.

(2) When a unit is deployed and oil analysis service is not available, the equipment unit will change component oil and service filters in accordance with the equipment LO.

(3) During deployment operations, the area of responsibility ASCC will establish AOAP service operations in concert with its maintenance plan and/or strategy. The PM AOAP will provide technical advice and assistance to the ASCC service support organization.

(4) During wartime and transition to war, AOAP:

*(a) Priority will be given to aeronautical items.*

*(b) Support will be provided by fixed labs and mobile or portable systems as they are available.*

*(c) Services will be provided as far forward as possible using the most expeditious system available.*

*(d) Services will be event oriented, occurring during unit stand-downs, reconstitutions, and the conduct of field and sustainment maintenance.*

*(e) Will be discontinued during download and hand-off of pre-positioned stocks only when AOAP laboratories are not available.*

(5) When required by the task force commander and upon of DCS, G-3/5/7, the PM AOAP will provide and deploy mobile laboratories in support of field operations as part of the maintenance plan and/or strategy.

(6) Upon arrival in the theater of operation, the mobile laboratory and AOAP team will be assigned in accordance with the AOR ASCC operational plan. The PM AOAP continues to provide technical advice and assistance to the ASCC and mobile laboratory team for the duration of the deployment.

*d. Communication.* Direct communication between the PM AOAP and the various command operating elements and laboratories is authorized. Correspondence will be sent to Army Oil Analysis Program Office (AMXLS-AO), AMC LOGSA, Building 3661, Redstone Arsenal, AL 35898-7466. ACOMs will not procure or test any lubricant analytical device and/or instrument without prior approval from and coordination with the PM AOAP.

*e. Maintenance feedback based on laboratory findings and recommendations.*

(1) When AOAP laboratories identify a potential impending equipment failure, they will contact the unit and forward a written laboratory maintenance recommendation (DA Form 3254-R) to the owning unit.

(2) Owning units and maintenance activities will provide maintenance feedback to AOAP laboratories within 24 hours of identifying inspection findings and maintenance actions taken. Procedures for providing feedback are contained in DA Pam 750–8 and DA Pam 738–751.

*f.* Support. When practical and necessary, inter-Service oil analysis support may be obtained from Navy and Air Force Joint Oil Analysis Program laboratories (see AR 700–132). Questions regarding inter-Service support and laboratory locations should be referred to the PM AOAP at [logsa.aoap@conus.army.mil](mailto:logsa.aoap@conus.army.mil).

### **8–3. Army Warranty Program**

*a.* Materiel under warranty will be identified and maintained per the detailed policies and guidance contained in AR 700–139.

*b.* Warranty actions will be completed as directed in AR 700–139 and reported under DA Pam 750–8 and DA Pam 738–751.

*c.* Unit readiness and mission effectiveness will take priority over warranty actions. The supporting warranty coordinator will be notified immediately when equipment must be fixed first and the warranty settled later.

*d.* Application of the AOAP to items under warranty is specified in the item's warranty TB. AOAP procedures supplement the instructions directing oil changes for equipment under warranty.

*e.* Representatives of the Logistics Assistance Program will provide advice and assistance to ACOM, ASCC, and DRU warranty coordinator and personnel at field and sustainment levels of maintenance.

*f.* Manufacturer's standard warranties will be accepted when items are locally procured. Special warranties will be included in local purchases only when they are cost effective and executable by the user.

*g.* Depot maintenance-related warranty expenditures will be monitored and reported to the DCS, G–4 (Sustainment Maintenance Division) as required per AR 700–139. Warranty costs may be funded one of two ways. Short term or limited warranty costs (for example, manufacturer's warranties) may be rolled into the initial acquisition cost or unit cost of repair, in which case they are captured in the hardware or software depot maintenance, and are not separately documented to support the 50/50 report, that is, manufacturer's warranty costs are not 50/50 reportable. Long term or extended warranty requirements that are included in the unit cost of repair should be included as a separate line item. As such, extended warranty costs are DMWD reportable.

*h.* Warranty actions that require a modification must be applied by a valid MWO. The MWO will be applied and reported per AR 750–10.

*i.* End items under warranty will be entered into SAMS–E.

### **8–4. Sample Data Collection and Analysis Program**

*a.* Objectives and purpose.

(1) The SDC–A Program is established per DODD 4151.18 to improve weapon system performance and logistics supportability and maintainability as well as to support ARSTAF programs. It is an integrated, closed-loop field data collection and analysis management system authorized by DA. Under the program, maintenance and logistics data are collected through onsite observation of a sample number of designated end items operating in selected units for specified periods of time. Dedicated personnel collect the data in a manner determined by each SDC–A proponent and approved by the applicable ACOM, ASCC, and DRU.

(2) Analysis of SDC–A information provides an assessment of equipment supportability and performance to support initiatives relating to manpower and personnel integration, safety, design improvements, production processes, MWOs, supply, maintenance, manpower requirements criteria, engineering evaluation, and operating support cost reduction. The SDC–A Program establishes an audit trail to conduct quality assurance per AR 70–1.

*b.* Program policies.

(1) The DCS, G–4, in coordination with AMC, will designate those intensively managed weapon systems that will be mandatory for SDC–A. DA staff elements, user ACOMs, ASCCs, and DRUs, and materiel proponents may nominate other weapon systems for discretionary SDC–A. Normally, mandatory and discretionary SDC–A requirements will be identified during the ASARC and/or Defense Acquisition Board review after the full-scale development contract is awarded.

(2) SDC–A requirements are incorporated in the initial draft MFP. Prior to initiation of a project, the materiel proponent will develop a detailed collection plan. Collection plans will be approved by DCS, G–4 (DALO–SMM), 500 Army Pentagon, Washington, DC 20310–0500, and coordinated with ACOMs, ASCCs, and DRUs by the AMC responsible official.

(3) AMC Army Materiel System Analysis Activity is the DA and/or AMC responsible official for SDC–A and will—

*(a)* Receive guidance and direction from DCS, G–4.

*(b)* Assume full AMC responsibility for administering the program.

*(c)* Develop and execute policy guidance.

(d) Conduct evaluations at the ACOM, ASCC, and DRU, proponent, and participating unit levels to assess operations and evaluate compliance with regulatory guidance.

(e) Provide assistance, as required, in all aspects of the SDC-A Program.

(f) Operate as the Army's impartial maintenance analysis activity to detect systemic maintenance issues and materiel failures and defects and investigate their root causes. Develop actionable recommendations derived through Soldier feedback, technical and statistical analyses, and direct observation and track recommendations through implementation or closure.

(4) The SDC-A controls apply to all DA activities soliciting materiel system field performance information from the Army user, except data collected under DA Pam 738-751. All requirements for data collection on fielded equipment in the hands of the user will be approved by DCS, G-4 through the DA and/or AMC responsible official. The AMC MSC with equipment proponentcy is designated the SDC-A proponent. The U.S. Army Materiel System Analysis Activity is the SDC-A proponent for all field exercise data collection. All SDC-A projects are managed and executed by the applicable SDC-A proponent.

(5) Any difference between ACOMs, ASCCs, and DRUs relative to roles and responsibilities involved in individual SDC-A projects will be resolved by the DCS, G-4.

(6) The SDC-A empirical data is a mandatory source of information for materiel proponents to use when providing information required by functional and staff elements.

c. Components of Sample Data Collection and Analysis. There are three components to the SDC-A program.

(1) Sample Data Collection. There are three types of SDC.

(a) Conventional sample data collection. These encompass specific equipment end items and are comprised of mandatory and discretionary projects. Mandatory SDC-A projects are directed and funded by DCS, G-4. The equipment proponent selects discretionary projects. When properly justified, any activity requiring data may request that the SDC-A proponent establish a discretionary SDC-A project. Discretionary projects are normally funded by the activity identifying the need for information. Conventional projects normally have an indefinite duration, unless terminated by the requesting activity. Owning unit and support personnel will allow SDC-A agency representatives to review and/or copy standard reports. SDC-A representatives will collect additional data elements, verbally and through direct observation of owning and support units. The SDC-A representatives will collect standard reports, perform quality checks, transcribe and reduce data if required, and forward data to a designated site. No additional reporting burden will be placed on participating field units.

(b) Special field information tasks. These are generally short term and are designed to support PEO, PM, and ASCC requirements that do not dictate a full-scale SDC-A project. The SFITs also may be used to augment selected ARSTAF objectives but cannot duplicate other ongoing efforts. An activity having a need for materiel system field performance data may request an SFIT through the SDC-A Program. The SFITs are normally funded by the requesting activity (PM or equipment proponent). This data collection method is highly detailed and is associated with data collection during intensive usage scenarios in which SDC-A representatives will collect highly complex RAM data, including data reported through various standard Army systems. The SFITs may be accomplished during either of the two major collection efforts or as an independent data collection.

(c) Field exercise data collection. This collection encompasses collection of maintenance and operational data on mission essential end items (normally ERC P and ERC A, as defined in AR 220-1) and other selected end items during selected major field training exercises and during other contingency operations, stabilizing operations, and peacekeeping operations. Contingency operation federal exercise data collection programs can occur with approval of the contingency operation task commander. Owning unit and support personnel will allow SDC-A agency representatives to review and/or copy standard reports. SDC-A representatives will collect additional data elements, verbally and through direct observation of owning and support units. The SDC-A representatives will collect standard reports, perform quality checks, transcribe data as required, reduce data if required, and forward reduced data to a designated site. No additional reporting burden will be placed on participating field units.

(2) Condition Based Maintenance and Health Monitoring: CBM is the Army's initiative to make maintenance more proactive and predictive in order to increase mission readiness and repair parts cost avoidance. The goal is to conduct maintenance operations before equipment fails based on the actual condition, as opposed to interval-driven maintenance events. CBM data is typically recorded using instrumentation and sensors but in some cases will be acquired using only software and a hand held device. The SDC-A program collects CBM data to be used by analysts in determining the best practices to implement the Army's CBM initiative. In return, units will be provided reports that provide early indicators of failure in components that are monitored. Diagnostic Trouble Codes will be provided to the unit when downloaded on a monthly basis. In addition, AMSAA will provide recommendations for corrective actions that are proven to help accurately diagnose and repair. Fleet health monitoring is used for Army wide forecasts of readiness levels, fuel and parts costs



and the identification of potential systemic failures on platforms. CBM data provides a more predictive and accurate analysis of Army fleet health and usage.

(3) Army Materiel Lessons Learned Analysis Program. AMLLA is the Army's lead materiel-focused lessons learned collection and analysis agency and supports the Army's Center for Army Lessons Learned and other organizations involved with materiel related systems and activities. The program identifies potential systemic materiel and materiel sustainment issues within the materiel enterprise (equipment, supply logistics, sustainment, performance, mobility, survivability, policy, procedure, training, and so forth), examines root and contributing causes, documents them, and develops lessons learned strategies to influence the improvement of current and future acquisition and logistics systems. AMLLA independently conducts operations under the authority of DCS, G-4 in both field level and sustainment level activities. AMLLA will—

- (a) Conduct independent investigations into potentially systemic materiel related issues at both field and sustainment level operations.
- (b) Conduct root-cause and continuous improvement analyses of systemic materiel issues.
- (c) Conduct doctrine, organization, training, materiel, leadership and education, personnel, facilities, and policy analysis of systemic materiel issues.
- (d) Conduct independent and directed special studies as required.
- (e) Identify, develop, and document best practices.
- (f) Provide results to owning proponent and system managers (program/product managers, and lifecycle managers).
- (g) Maintain historical record of materiel lessons learned in a web-based accessible database.
- (h) Collect materiel issue disposition and feedback from proponents and system managers.
- (i) Maintain knowledge management of data to maximize the reuse of lessons learned.
- (j) Collaborate with the Army and Joint lessons learned communities.

## **8-5. Army Modification Program**

Modifications to Army materiel are either mandatory MWOs that are emergency, urgent, or routine or are alternate changes that include minor alterations and special purpose or special-mission modifications. Detailed policy guidance is outlined in AR 750-10, AR 220-1, AR 700-138, DA Pam 750-8, and DA Pam 738-751.

- a. Mandatory modifications are authorized for application by a published MWO. The owning unit is responsible for ensuring application of MWOs and equipment data in MMIS is accurate.
- b. Equipment awaiting application of an emergency MWO will be placed in an NMC status.
- c. Urgent modifications will be applied within 2 years from the MWO effective date as specified in the MWO. If the modification is not applied within the specified time, the equipment will be placed in an NMC status, except in the case where an extension has been granted by the DCS, G-4 (Maintenance Directorate) per AR 750-10.
- d. Routine modifications will be applied within 5 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.
- e. The funding of MWOs is based upon guidance in DOD 7000.14-R, DFAS-IN Manual 37-100 (current FY) and AR 750-10.
- f. Commanders will not modify their equipment unless there is an official MWO.
- g. The activity applying an MWO will report MWO application to MMIS in accordance with AR 750-10.
- h. MWOs will be annotated in the applicable maintenance LIS with an appropriate fault code based on the classification of the MWO.
- i. New MWOs with data plates and labels must include requirements for IUID.

## **8-6. Army Critical Safety Items Program**

An item will be identified as CSI when failure of that item could result in loss of or serious damage to the aircraft or weapon system, an unacceptable risk of personal injury or loss of life, or an uncommanded engine shutdown that jeopardizes safety. Damage sufficient to create a Class A accident or a mishap of severity Category I constitutes substantial damage. All CSIs will be considered to be flight safety critical aircraft parts.

a. CSIs will be purchased or repaired and/or overhauled only from sources approved by AMCOM. The objective is to achieve competition among approved CSI suppliers and their products and to ensure that potentially new CSI suppliers and their products are effectively evaluated prior to delivery of CSIs to the Army.

(1) Unless otherwise authorized by the AMCOM, offers of surplus material of CSIs will be considered only for procurement provided the AMCOM has approved documentation substantiating the following criteria:

(a) Government contract quality assurance inspections will be performed on the surplus offers to ensure the criteria are met and all critical characteristics identified on the component drawings, in the solicitation or contract, and in the quality assurance letter of instruction are acceptable.

(b) Supplementary quality assurance provisions may be provided where verification of critical safety characteristics cannot be performed without degradation of the CSI.

(2) Local purchase of CSIs is prohibited unless justified by unusual and compelling urgency. Local purchase of CSIs is not authorized unless approved by the AMCOM. When CSIs are procured locally, the buying activity will notify the cognizant integrated materiel manager.

(3) Prior to installation of replacement CSIs not drawn from “ready for issue” inventory (for example, CSIs obtained from aircraft recovery sites or other salvage and/or cannibalization activities), AMCOM will ensure that all required maintenance actions and configuration changes are in conformance with current fleet technical documentation and that applicable acceptance test procedures have been satisfied.

b. Service depots and other Government organic facilities are authorized to manufacture CSIs in accordance with the following:

(1) Alternate source for recurring production. Depots and other Government facilities are candidates to be alternate sources for routine, repetitive, production lot manufacturing of CSIs provided AMCOM confirms they meet all the requirements established for alternate source qualification.

(2) One-time manufacture. Depots and other Government facilities are authorized to manufacture CSIs in limited quantities on a one-time basis without undergoing the full alternate source qualification process only when AMCOM confirms the following conditions are satisfied.

(a) Execution of all phases of one-time manufacture processing will be done on an emergency basis and will be given high priority.

(b) Quantities in excess of the immediate need may be manufactured where additional items are necessary for testing (for example, first article, fatigue strength, other destructive tests, etc.) or the economics of production, part usage, and production processes indicate this is clearly advantageous to the Government. This authority for one-time manufacture will not be used to circumvent alternate source qualification requirements for repeat or routine production. This one-time manufacture requirement does not apply to items produced to support research, development, test, or evaluation. The parts produced in accordance with this process will be coded, tracked, and disposed of as military unique CSIs.

c. Modifications of CSIs during installation or repair in order to make the item fit or function are prohibited unless approved by AMCOM. CSIs that need to be modified to make them fit or function properly will not be installed until the problem has been reported to AMCOM and disposition is provided in accordance with discrepant material review processes.

d. In the repair and/or overhaul of aviation systems and equipment, only conforming CSIs purchased from sources approved by AMCOM will be used. This is regardless of whether the repair/overhaul is performed by the Government or a contractor.

e. PQDRs will be submitted, investigated, and tracked where deficiencies are identified or suspected on CSIs. PQDRs will be submitted on CSIs where there is a defect or nonconforming condition detected on new or newly reworked Government-owned products, premature equipment failures, or products in use that do not fulfill their expected purpose, operation, or service because of deficiencies in design, specification, material, manufacturing, and workmanship. Deficiencies relating to critical characteristics or those that potentially impact safety will be classified as Category 1 PQDRs.

f. When CSIs are no longer required by an Army aviation activity, the CSIs and associated documentation will be provided to the DLA Disposition Services for disposal as required by DODM 4140.01 and in accordance with DODM 4160.21. When it is not economically practical to send consumable CSIs to Defense Reutilization and Marketing Service, the Army may dispose of the CSIs in the following ways:

(1) Prior to disposal, CSIs that are defective, nonconforming, have exceeded their life or time/use critical limits, or for which there is either no documentation or no reliable documentation regarding the manufacture, acquisition, use, modification, repair, or overhaul, will be mutilated beyond repair. CSIs that contain military offensive or defensive capabilities will be demilitarized in accordance with DODM 4160.28, Volume 1.

(2) Contracts requirement packages for the repair, overhaul or modification of aviation systems, subsystems, or equipment will include requirements for the proper disposal of CSIs.

## **8–7. Army maintenance floats**

Authorized Army maintenance regeneration enablers are ORF, RCF, and TCX.

a. ORF is a DA authorized quantity of selected class VII and VIII end items maintained at support maintenance activities and accounted for on the activity's property book. The support maintenance activity commander authorizes the exchange of ORF assets to supported activities when repair of like items from supported activities cannot be accomplished

in time to meet maintenance readiness objectives. Support maintenance activities accomplish this by simultaneously transferring the serviceable ORF for the supported unit's repairable asset. The goal of ORF is to maintain established readiness levels at the battalion level during peacetime, but can be used in support of contingency operations and war when justified and approved per 8-7, paragraph 1. ORF is a factor in computing the Army Acquisition Objective.

*b. Responsibilities.*

- (1) The ASA (ALT) will—
  - (a) Ensure materiel developers request ORF authorizations before fielding using the formula in table 8-1.
  - (b) Request access to the ORF requirements in G-8, Force Development Army Equipping Enterprise System (AE2S) and input the consolidated materiel developer ORF requirements by LIN, NIIN, command, UIC, and FY no later than the second quarter of each FY utilizing previous FY data.
- (2) The DCS, G-3/5/7 will approve ORF authorizations annually.
- (3) The DCS, G-4 Maintenance Directorate will review ORF requirements the third quarter of each FY and will—
  - (a) Review ASA (ALT) materiel developer ORF requirements by FY.
  - (b) Review ACOM, ASCC, and DRU annual ORF demand, utilization rates, and supported unit readiness rates.
  - (c) Assess ORF program compliance.
  - (d) Recommend the DCS, G-3/5/7 approve and/or disapprove ACOM, ASCC, and DRU ORF authorizations for the next FY.
  - (e) Update MMDF based on DCS, G-3/5/7 approved ORF authorizations.
  - (f) The system for ORF/RCF requests is AMC, LOGSA, and LIW. Approve and/or disapprove RCF requests for additions, changes, or deletions to maintenance float support requirements by reviewing all requests from the ACOMs, ASCCs, and DRUs through the AMC LOGSA LIW and/or the RCF listing in the National Equipment Listing (NEL) through AMC LOGSA LIW.
  - (g) Provide coordination for ORF/RCF status reports, as required.
- (4) The DCS, G-8 will—
  - (a) Validate asset availability, procure assets, and provide disposition of excess to support the approved ORF program.
  - (b) Ensure ORF assets are of the same LIN and modernization as supported assets.
  - (c) Update AE2S with current ORF authorizations.
- (5) Commanders of ACOMs, ASCCs, and DRUs will—
  - (a) Appoint the command's ORF coordinator.
  - (b) Approve the establishment of subordinate ORF managers.
  - (c) Establish repair time criteria to be used as the basis for issue of ORF assets and document criteria on ORF coordinator additional duty appointment orders.
  - (d) Ensure authorized ORF are on hand or on requisition and disposition of excess is requested within 90 days of authorization change.
  - (e) Review ORF maintenance and accountability procedures to ensure policy requirements are met.
- (6) ACOM, ASCC, and DRU ORF/RCF coordinators will—
  - (a) Email ORF coordinator additional duty appointment orders to the DCS, G-4 Field Maintenance Division (usarmy.pentagon.hqda-dcs-g-4.mbx.dcs-g44m-mnf@mail.mil). Email subject must contain the ACOM, ASCC, or DRU name and "ORF coordinator additional duty appointment orders".
  - (b) Request access to the ORF requirements in AE2S and input the consolidated annual ORF utilization rates, demand satisfaction rates, and authorization requests by LIN, NIIN, command, and UIC no later than the second quarter of each FY utilizing previous FY data.
  - (c) Monitor command ORF manager compliance to policy.
  - (d) Designate units accountable for ORF and ensure equipment is accounted for on the LIS property book.
  - (e) Report previous calendar year ACOM, ASCC, DRU RCF demand data at the unit level in the NEL through AMC LOGSA LIW by 15 May.
  - (f) Request new ORF/RCF additions, changes, or deletions throughout the year as required in the NEL through AMC LOGSA LIW, which will be submitted to the DCS, G-4 (Maintenance Directorate) for approval/disapproval.
  - (g) Provide e-mail notification to AMC LOGSA and HQDA RCF points of contact stating that the yearly RCF demand data have been updated in the RCF listing in the NEL through AMC LOGSA LIW or that there are no changes to the data.
- (7) Command ORF managers will—
  - (a) Ensure ORF is accounted for on the support maintenance activity's LIS property book.
  - (b) Ensure ORF is maintained in accordance with the Army maintenance standard in paragraph 3-2.
  - (c) Ensure ORF maintenance readiness is separately reported monthly in accordance with AR 700-138.
  - (d) Capture demand for ORF in the following categories:
    1. Use will improve maintenance readiness, transaction not commander approved.

2. Use will improve maintenance readiness, transaction commander approved, ORF available.
3. Use will improve maintenance readiness, transaction commander approved, ORF NMC.
4. Use will improve maintenance readiness, no ORF authorized or on hand.
- (e) Ensure the use of ORF is only approved when the use will improve maintenance readiness.
- (f) Ensure ORF transactions are property book lateral transfers and captured to determine ORF utilization.
- (g) Submit a quarterly list of ORF demands by category and ORF transactions to the ACOM, ASCC or DRU ORF Coordinator.
- (h) Report annual ORF utilization rate (utilization rate = ORF transactions / ORF on hand) and demand satisfaction rate (demand satisfaction rate = ORF transactions / commander approved, ORF available, ORF demand).
- (i) When ORF is not authorized or on hand request authorization based on demand category d above.
- (j) Annually request changes and validation of ORF authorizations using the utilization rate, demand satisfaction rate, and the ORF authorization formula in table 8–1.
- (k) Request disposition of excess within 90 days of authorization change through command channels and the DCS, G–4, to the DCS, G–8.
- c. ORF criteria.
  - (1) Must have a standard LIN and NSN.
  - (2) Must be Class VII or Class VIII.
  - (3) Must be repairable at the field-maintenance level.
  - (4) Must be indicated as an ORF in the Materiel Maintenance Data File (MMDF)
- d. The DCS, G–3/5/7, DCS, G–4, and DCS, G–8 will prioritize ORF by the following categories.
  - (1) Category I—Items on the DA Critical Items List as directed by DCS, G–3/5/7 to have a float.
  - (2) Category II—Non-category I items that are readiness reportable per AR 700–138.
- e. ORF assets will not be used to—
  - (1) Provide a source of repair parts (controlled exchange or cannibalization).
  - (2) Expand currently assigned missions or set up new operational missions.
  - (3) Replace items that have been cannibalized.
  - (4) Satisfy temporary loan requirements.
  - (5) Set up a peacetime pool of equipment to reconstitute the force.
  - (6) Fill unit equipment shortages.
  - (7) Replace uneconomically repairable equipment.
- f. Class VIII ORF will be managed and maintained in accordance with AR 750–1, paragraph 6–65, Army medical maintenance regeneration enablers.
- g. The DCS, G–3/5/7; DCS, G–4; and DCS, G–8 will be the authority for ORF assets on the strategic/ national level. When approved by DCS, G–8; ACOMs; ASCCs; and DRUs can use ORF to fill deploying unit’s shortages and establish a ready to fight capability during transition to and upon outbreak of war. Any remaining ORF will be reported through DCS, G–4 to DCS, G–8 for disposition instructions
- h. Commanders, in the rank of Lieutenant Colonel or above, will only authorize the issue of ORF when the priority designator on the work order is 01 through 06 and the estimated repair time will adversely impact that LIN’s AR 700–138 maintenance readiness goal for the current or projected maintenance readiness reporting period.

**Table 8–1**  
**Operational readiness float and tactical computer exchange authorization formulas**

Time frame	Formula
Before fielding	<b>Authorization = (RG) X (MTTR)/(MTBF + MTTR) X planned (in-use) density</b>
System fielded	<b>Authorization = ((Total NMC days by LIN)/(LIN density x 365 days)) X (RG) X LIN density</b>
Requisitioning objective (RO) computation in SAMS–E	<b>OH QTY = (Total DMDs/365) * DMD SAT OBJ * (Total days and/or total DMDs))</b>

Note:

<sup>1</sup> RG = readiness goal from AR 700–138.

<sup>2</sup> For initial computation during acquisition development, MTTR and MTBF is in days.

<sup>3</sup> The MTBF and MTTR are those operational requirements specified for that system by the CAPDEV, documented in the initial capabilities document, and included in the logistics support analysis requirements.

<sup>4</sup> When these elements are in rounds, hours, miles, or events, they must be converted to days. During development, MTBF and MTTR data will be obtained from the logistics support analysis requirements.

<sup>5</sup> Supported assets and supported LIN on hand exclude ORF assets.

- a. Repair cycle float.
  - (1) Assets.
    - (a) RCF is a national asset consisting of an authorized quantity of assets used by the NICP to replace like items turned in by the owning unit for a planned depot repair program.
    - (b) Assets completing depot repair where a RCF asset was issued to a unit to replace an item turned in for repair will be used to replenish the RCF pool to support future requirements.
    - (c) Procedures to account, manage, and issue RCF items are outlined in AR 710–1.
    - (d) The NICP may issue RCF assets to fill MTOE and/or MTDA or ORF shortages when other assets are not available and directed to by the DCS, G–8.
    - (e) Compute RCF using the following formula in table 8–2. The RCF authorization for an item will be deleted when—
      - 1. Directed by HQDA.
      - 2. The computed factor is .0000.
      - 3. The computed factor is less than .0100 and justification for retention is not received from ACOMs, ASCCs, and DRUs within 1 year. Compute RCF authorizations using the formula in table 8–2.

**Table 8–2**  
**Repair cycle float authorization formula-**

For the system fielded time frame

Authorization = (repair cycle time (RCT) and/or mean time between overhaul (MTBO)) x LIN (IIQ) density

Note:

<sup>1</sup> RCT = expressed in days.

<sup>2</sup> MTBO = expressed in months.

<sup>3</sup> RCF factor = RCT and/or MTBO.

<sup>4</sup> IIQ = contains the required initial allowance of major items in the Logistics Structure and Composition Systems for each unit in the approved Army Force Program.

- (2) Criteria. RCF must—
  - (a) Have a standard study number (SSN).
  - (b) Be a Class VII or Class II.
  - (c) Be authorized at the sustainment maintenance level.
- (3) Tactical computer exchange. Assets.
  - (a) TCX is an operational and tactical asset consisting of an authorized quantity of assets used by tactical units to replace like items to maintain critical IT capabilities necessary to regenerate combat forces.
  - (b) TCX items will be managed in SAMS–E or DA authorized LIS and/or GCSS–Army, accepted under the work order process and, as required RCF, exchanged by the repair activity (sustainment-level maintenance) where RCF is authorized and on hand.
  - (c) TCX will be issued to return logistics IT equipment to FMC status in accordance with the commander’s priorities.
  - (d) TCX authorizations are computed using the formulas listed in table 8–2.
- (4) Criteria.
  - (a) TCX comprises Class II nonexpendable or Class VII serial-numbered main components, without which the automation system cannot function, for example a tower, laptop, computer, or personal digital assistant with a central processing unit in support of a LIS.
  - (b) TCX may include LRUs such as monitors, printers, and external disk drive arrays. Like other Class IX LRUs, these are generally recoverable major ancillary items with a cost of \$500 or more that connect to the main component turning it into an automation system.
  - (c) TCX may include repair parts such as keyboards, cables, disk drives, and pointing devices with a unit cost less than \$500. These nonrecoverable items will be supplied by Class IX requisition.
  - (d) TCX will be located at the SASMO and must be 100 percent deployable.

## **8–8. Battlefield damage assessment and repair**

*a.* The purpose of BDAR is to return disabled equipment rapidly to combat or to enable the equipment to self-recover. BDAR is the commander's responsibility, based on mission, enemy, terrain and weather, troops and support available, time available, and civil considerations and is accomplished by the operator and/or crew and field maintenance personnel. Realistic training must be performed during peacetime to ensure wartime proficiency.

*b.* BDAR procedures are designed for battlefield and training environments and will be used in situations where standard maintenance procedures are not practical or possible. These procedures are not meant to replace standard maintenance procedures, only to sustain the vehicle and/or equipment until permanent repairs can be accomplished.

*c.* Low-risk BDAR procedures will be incorporated into peacetime maintenance training in both field and training-base scenarios. Combat training centers and field training exercises provide excellent realistic training environments for BDAR. Approved battlefield damage repair BDAR kits will provide operators and maintainers the capability to accomplish damage repair or routine equipment failure repair on the battlefield. BDAR fixes will be replaced with standard repairs at the first opportunity. Equipment may continue to be operated based on the recommendation of qualified maintenance personnel, while awaiting parts, with the BDAR fix in place. Peacetime BDAR involves low-risk fixes outlined in appendix E of BDAR TMs and is performed only in a training environment upon the discretion of the commander. Low-risk repairs are those that can be accomplished without risk to personnel or further damage to equipment and can be applied under the supervision of qualified maintenance personnel. Peacetime BDAR repairs are temporary and will be replaced with standard maintenance repairs at the first opportunity.

*d.* BDAR requirements are usually written in TMs. Some items of equipment may not require the development of a BDAR TM; however, if a new or improved system is under development and BDAR is required, the TRADOC BDAR agency will assist AMC and the contractors in development of a BDAR TM. BDAR is for those items of equipment having a significant impact on the outcome of specific combat missions.

*e.* BDAR doctrine and techniques will be evaluated during a U.S. Army ballistic research live fire test. Live fire test plans will incorporate BDAR into live fire tests on Army equipment to ensure that BDAR can be performed and to ensure that it is incorporated into appropriate publications. When reporting a BDAR action, a DA Form 5988–E/DA Form 2404 will be forwarded to the Survivability/Vulnerability Information Analysis Center (AF–FDL–FES–CDIC), Wright-Patterson Air Force Base, OH 45433 (see ATP 4–31).

## **8–9. Army Chemical Agent Resistant Coating, Camouflage, and Marking Program**

*a.* Chemical agent resistant coating and/or camouflage painting pattern responsibilities. The CG, AMC will provide management and direction for CARC painting, CPP, and marking program of Army materiel as follows:

(1) Provide the lead Army organization for CARC and/or CPP.

(2) The U.S. Army Research Laboratory, RDRL–WMM–C (Organic Coatings Team) has been given responsibility for research and development of protective coatings, writing and managing specifications, testing and qualification of products, technical instruction on paints and painting procedures, and shelf life validation and extension.

(3) AMC MSCs will ensure that CARC requirements are included in all maintenance and new procurement.

*b.* Policies for painting.

(1) CARC is the approved coating for all combat and combat support equipment; tactical vehicles; aircraft, including unmanned; and essential GSE and reparable containers such as engine, transmission, and all ammunition containers, including appropriate kits, except as stated in paragraph 8–9*b* (3) through 8–9*b*(9).

(2) Paint will be applied only when the present paint is unserviceable or if directed by HQDA. Vehicles may be repainted when 25 percent of the total vehicle painted area has been determined to be unserviceable by supervisory maintenance personnel. For aircraft, repair painting is restoration of a noncompliant coating system to an area equal to or less than 50 percent, and complete painting is restoration of a noncompliant coating system to an area greater than 50 percent.

(3) Repainting for the sole purpose of achieving uniformity or for cosmetic purposes is prohibited.

(4) Tactical equipment designed for single-color CARC requirement will be painted with an approved color based upon contingency mission environment.

(5) Repair painting may be performed at field and sustainment levels where Occupational Safety and Health Administration approved facilities are available. Aircraft complete painting will be performed at sustainment level.

(6) Painting at field level using a brush or roller is limited to touch-up painting in accordance with TB 43–0242 for ground support and TM 1–1500–345–23 for aircraft. Touch-up painting includes restoration of painted surfaces after repair.

(7) Touch-up painting of CARC-painted equipment will be with CARC only. The use of any unauthorized, non-CARC coating is strictly prohibited.

(8) Scratches, chips, or marring of the paint surface observed during PMCS will be repaired at field level to prevent corrosion damage (see TB 43–0242, which provides guidance for ground support, and TM 1–1500–345–23, which provides guidance for aircraft).

(9) Items that do not require painting will not be painted. For example, items made of fabric or that have anodized or parkerized surfaces will not be painted.

(10) Do not paint the following with CARC:

(a) Painted items that attain surface temperatures of 400 Fahrenheit and higher, serve a heat-conducting function, or serve a function of expanding and contracting during operation. Examples are manifolds, turbo chargers, cooling fins, and rubber hoses.

(b) Displacement watercraft that will be subject to prolonged saltwater immersion, such as the logistical support vessel and the landing craft utility.

(c) Nondeployable equipment and fixed installation systems such as railroad rolling stock and fixed power generation systems.

(d) Installation/TDA equipment such as military police cars, nontactical fire trucks, and buses.

(e) Aluminum transmissions that are enclosed in combat vehicle power pack compartments. However, any ferrous components of the transmission must be protected with CARC or other rust-preventive agent.

(11) Environmentally acceptable coatings that do not violate Federal, State, and local laws will be used at all times per technical data packages provided to depots, arsenals, and contractors.

(12) CARC-protected surfaces are not to be covered with petroleum or other products to improve the appearance of the equipment. Use of these products will reduce the chemical protection provided by CARC and increase the probability of injury.

c. Policies for camouflage painting pattern.

(1) CPP is a three-color design for use in wooded and other green-vegetated areas and in some arctic or partially snow covered areas. CPP also includes single colors for use in desert or totally snow-covered areas.

(2) CPP is required for all equipment previously camouflaged in one of the four-color patterns.

(3) CPP is required for all equipment having an area greater than nine square feet on any side.

(4) CPP for new equipment will be specified in the technical data package and will be applied at the time of manufacture.

(5) Camouflage colors must meet requirements for spectral and infrared reflectance, in addition to color, as established by the CECOM Research and Development Center, Fort Belvoir, VA.

(6) When available, CPP will be applied to equipment during depot rebuild/overhaul, product improvement programs, and recapitalization or refurbishment programs. If the three-color pattern has not been developed, a single color base coat will be applied. Where possible, depots will apply colors that conform to unit contingency missions if requested.

(7) Field and sustainment activities will accomplish CPP of equipment having only a base coat. Patterns may be obtained from CECOM Research and Development Center, Fort Belvoir, VA. If requirements exist that differ from the approved patterns and color scheme, ACOMs, ASCCs, and DRUs must request development of the required pattern and/or color scheme.

(8) ACOM, ASCC, and DRU commanders are assigned responsibility and authority to camouflage paint equipment with patterns appropriate for contingencies. When a unit has more than one contingency plan, the CPP for the primary contingency will be used. Priority should be given to early deploying units.

(9) CPP will not be changed for training exercises.

(10) CPP will not be applied to—

(a) Equipment not requiring open-area concealment.

(b) Nondeployable equipment and fixed installation systems.

(c) Equipment that must be painted per regulation or policy established by other Services or Government agencies.

(d) Rotary and fixed-wing aircraft. However, GSE must have CPP applied per this regulation.

(e) Components of systems or items that can be transported in various modes and can be constructed or assembled into a variety of configurations.

(f) Stackable containers used in the Defense Transportation System, except missile containers that are a component of a weapon system.

(g) Canvas covers, tarpaulins, end curtains, seats, and backrests.

(11) Equipment will not be decorated with individual characteristic designs such as caricatures or cartoons.

(12) The style, size, and exact location of markings for all Army materiel will be specified in applicable TB 43–series and other DA technical publications, including technical data packages.

(13) Aviation equipment will be marked according to TM 1–1500–345–23.

(14) Special markings for NTVs are included in AR 58–1.

(15) Technical data, where appropriate, will be contained on metal or plastic plates or decals.

(16) The Red Cross insignia for Army Medical Department equipment will consist of a red cross composed of four square-shaped arms bordering on a center square of the same size and superimposed on a square white field slightly larger than the cross.

(17) Under tactical conditions, when requirements for concealment outweigh those for recognition, all conspicuous markings may be obscured or removed by the authority and at the discretion of the major organization commander present. Protective Red Cross markings may be obscured only at the direction of the responsible major tactical commander.

(18) Overseas commanders may deviate from this regulation when host countries require special markings per international agreements. For aviation, refer to TM 1-1500-345-23.

(19) Before Army materiel is sold or permanently transferred from the jurisdiction of the DA, all Army identification markings will be removed or permanently obliterated by sanding or chipping.

(20) Markings on the exterior of tactical equipment will be applied or over-sprayed with materials resistant to chemical agents.

(21) Safety marking, including hazard warning and caution information, for nontactical equipment, tactical equipment not subject to the Army camouflage policy, and equipment at fixed facilities will comply with the provisions of AR 58-1. Materiel painted in camouflage requiring hazard warning and caution information will have this information applied in a contrasting color.

(22) Tactical equipment in CONUS and OCONUS units and activities without an identifiable contingency mission or plan may maintain equipment in single color CARC that best conforms to the local terrain to minimize repainting costs without affecting unit readiness.

(a) Equipment with 3 color camouflage paint may not be repainted in single color CARC for the sole purpose of achieving uniformity.

(b) It is acceptable to have a mix of three and single color vehicles in a unit or activity.

(c) Equipment may be repainted from three color to single color CARC only when a qualified field sustainment or depot maintenance personnel determines 25 percent or more of the total vehicle painted area is unserviceable.

## **8-10. Product quality deficiency and/or improvement reports**

a. All Army materiel is subject to QDR and EIR. The purpose of submitting a QDR is to report conditions that are the result of below-standard quality workmanship or materiel deficiencies and to file claims for initial failure credit from the AWCf for DLRs. The purpose of an EIR is to suggest materiel improvements in design, operations, or manufacture. Reporting instructions for QDRs and EIRs are contained in AR 702-7-1, DA Pam 738-751, and DA Pam 750-8.

b. EIRs and QDRs submitted on SF 368, online, by telephone, or by other means are to be evaluated for possible follow-on actions to change the equipment design or equipment operation and/or maintenance instructions. The surfacing of equipment design deficiencies through the deficiency reporting process (EIRs and/or QDRs) may result in MC requests being initiated. Deficiency reporting instructions are contained in AR 702-7-1, DA Pam 750-8, and DA Pam 738-751.

c. AMC will—

(1) Establish responsibilities and procedures for managing and evaluating recommended improvements in design, operation, and manufacture.

(2) Establish responsibilities and procedures for managing and evaluating reports of product quality deficiencies in design, specifications, materiel, manufacturing, and workmanship.

(3) Ensure that defects and failures, as reported by user personnel, are promptly analyzed for failure trends and management action and summarized for command use.

(4) Ensure that user experience reported on the deficiency report is considered in the design, engineering, and production phases of new equipment.

(5) Prepare the Army TB 43-0002 series.

d. 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.

e. The unit or activity that identifies the need for a QDR or EIR is responsible for its submission.

f. When a QDR or EIR results in a need for a modification to fielded equipment, the modification will be applied in accordance with AR 750-10.

g. The unit or activity may contact the logistics assistance representative or logistics assistance office for guidance on QDR and/or EIR.

## **8-11. Administrative storage of materiel**

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. The policy for administrative storage of TDA equipment is in AR 71-32.



- a.* 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) In addition to in paragraphs 8–11*a* (1) and 8–11*a*(2), 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.
- b.* Before a decision is made to use administrative storage, the commander will consider all workable options for maintaining equipment readiness.
- c.* Installation commanders may authorize the administrative storage of their materiel within guidance furnished by this regulation. To the maximum extent practical, administrative storage of materiel will be controlled and supervised at battalion level or above. Whenever possible, equipment will not be left in administrative storage for a period exceeding 365 days.
- d.* ACOM, ASCC, and DRU commanders responsible for administrative storage will—
- (1) Furnish assistance to commanders as required in carrying out an administrative storage program.
  - (2) Monitor the status of materiel in administrative storage in their commands.
  - (3) Designate an installation representative to conduct a command-level review of administrative storage at 6-month intervals to reassess and revalidate the requirement.
  - (4) Forward results of these reviews, with appropriate recommendations, to the DCS, G–4 (Maintenance Directorate) when circumstances are beyond the capability of the ACOM, ASCC, and DRU commander to resolve.
- 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.* Equipment in administrative storage will have all major subsystems exercised as directed by applicable TMs. Any faults detected will be corrected. The materiel will then be completely reprocessed if it is to be returned to administrative storage.
- g.* Before equipment is placed in administrative storage, it must meet the maintenance standard outlined in paragraph 3–2.
- h.* All regularly scheduled preventive maintenance services are suspended while materiel is in administrative storage.
- i.* 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 exercise schedule in the TM for the equipment.
- j.* 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.
- k.* Equipment in administrative storage is accounted for per AR 710–2; asset reports are submitted under AR 710–3 and materiel condition status reports under AR 220–1 and AR 700–138.
- l.* 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 service completed.
  - (4) Be calibrated, as required.
- m.* 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.
- n.* Special scheduled services, inspections, maintenance standards and procedures, or other readiness evaluations prescribed in applicable operator manuals will be followed. The applicable field maintenance technical manual 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/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.
- o.* Administrative storage of aircraft will be considered in the same category as short-term storage and accomplished per the applicable TM. In no case will aircraft remain continuously in administrative (short-term) storage for more than 45 days. At the end of that time, aircraft will be restored to an FMC status or placed in intermediate storage up to, but not exceeding, 180 days.

## **8–12. The Army Tire Retread Program**

### *a. General policies.*

(1) Command emphasis is required at all levels to obtain maximum safety and savings benefits from the proper use of retread tires.

(2) Surveillance procedures will be established to ensure that all reparable vehicle and aircraft tires are recovered prior to the end of their useful life.

(3) Reparable tires will be retreaded, not discarded, or will be processed through DRMO, unless classified not reparable and/or not economically reparable.

(4) Except for restrictions listed below, or approved as waivers by HQDA (DALO–SMM), using activities will use retread tires.

(a) Two-ply tires without breaker strips or belts will not be retreaded.

(b) Buses will not be operated with retread tires on the front wheels.

(c) Ambulances, both commercial and military; M747 semitrailers; M977-series heavy expanded mobility tactical trucks; and any vehicle with a central tire inflation system will not be operated with retread tires.

(d) M911 heavy hauler, truck tractor vehicles will not be operated with retread tires on steering axles.

(e) Retread tires will not be used on any axle of the M860A1 Patriot Missile trailer or any large missile system and its prime mover. This includes not using retreads on any axles of the M983 heavy expanded mobility tactical truck tractor when it is the prime mover of the Patriot Missile trailer. Retread tires will not be used on any axle of the M985E1 heavy expanded mobility tactical truck cargo guided missile transporter.

(f) Applicable State and Federal transportation codes will be met when a vehicle is operated off the installation.

(g) The OCONUS ACOMs, ASCCs, and DRUs may establish a tire-retreading program per this regulation, but will comply with host-nation tire retread laws and regulations.

(h) Nondirectional cross-country retreaded tires will not be used on any axle of any vehicle or trailer, including such vehicles as 5-ton and 2.5-ton trucks.

(5) Regrooving of tires is not permitted because it is not structurally viable or cost effective.

### *b. Responsibilities specific to the Army Tire Retread Program.*

(1) AMC is the responsible official for the Army Tire Retread Program. The U.S. Army TACOM is designated the lead operating agency for developing a national retread program for vehicle tires. This program will include contracts under the basic ordering agreement for most tactical and tactical support vehicle tires that have been tested and approved.

(2) AMC is responsible for management of all DA aircraft and vehicle tires.

(3) AMC will participate as a member of the Tri-Service Aircraft Tire Coordination Group to improve aircraft tire management by—

(a) Reviewing tri-service aircraft tire maintenance data and/or analysis reports.

(b) Coordinating procurement cost of new and rebuilt tires with the U.S. Air Force (USAF) and Navy.

(c) Coordinating with the USAF and Navy to revise specifications for retreading tires based on the latest technology.

(d) Coordinating with the USAF and Navy to consolidate and upgrade technical data concerning tire and inner tube publications.

(e) Designating program proponents for developing and managing vehicle and aircraft tire retreading programs.

(4) Program proponents will—

(a) Develop policy and procedures to manage and control tire retreading, including methods of inspection used to determine when tires require retreading or replacement.

(b) Establish reporting procedures needed to determine the cost effectiveness of retreaded tires and report savings under the Army Resources Conservation Program.

(c) Ensure maintenance programs for the Army and grant aid equipment use retread tires to the maximum extent possible, but use only new tires for foreign military sales items.

(d) Negotiate and sign all tire support agreements.

(e) Participate jointly with USAF and Navy in qualifying aircraft tire retread contractors who repair tires common to all services. Qualify separately those contractors who retread Army aircraft tires.

(5) In developing and managing pneumatic tires, proponents will adhere to the following the repair policy criteria:

(a) Automotive, commercial, tactical, off-the-road type (combat, materiel handling equipment, and construction equipment), and aircraft tires will be retreaded worldwide to the extent that it is economical and practical without endangering personnel and/or equipment.

(b) Provide any technical assistance required for the tire retreading programs, including pre-award surveys made per FAR, TB 9–2610–200–34/1, and commercial American Standards of Test Measurement (ASTM) standards (listed in the equipment TMs), when approved by TACOM.

(6) Major Army commanders, TSG, and the Chief of Engineers will use the Army Tire Retread Program to the maximum extent practicable and maximize safety during pneumatic tire use by—

- (a) Maximizing the use of training courses.
- (b) Ensuring thorough inspection of pneumatic tires mounted on vehicles and aircraft during PMCS and removal when tread depths reach the dimension for retreading.
- (c) Ensuring that all maintenance personnel are complying with the requirements of TM 9–2610–200–14.
- (d) Developing accurate workload requirement forecasts.
- (e) Reporting excess serviceable (new and retread) and economically repairable tires to the NICP for disposition per AR 725–50.

(f) Ensuring that qualified personnel are available to inspect and classify tires prior to shipment for retreading or to DRMO and to perform acceptance inspection on receipt of retread tires from the retreader.

(g) Developing aircraft tire usage and performance data upon request from DOD.

(7) To ensure the quality of retreaded tires—

- (a) Retreading can be performed several times as long as the casing is removed from the vehicle before damage occurs.
- (b) Installations and stock record account activities will ensure that all retreaded tires are inspected for quality of workmanship upon receipt. Upon discovery of deficiency in workmanship or quality, inspectors will immediately initiate a QDR and/or EIR to TACOM or AMCOM.

(c) When required, TACOM or AMCOM will provide technical assistance to field and sustainment maintenance personnel.

(d) Maximum emphasis will be placed on quality. Tires repaired or retreaded by TACOM contractor or local commercial sources will be guaranteed against defects in materiel or workmanship for the tread life of the tire under contract specifications or ASTM standards. Defective tires will be reported for disposition instructions per DA Pam 750–8 and DA Pam 738–751. Nonretread tires will be returned to the contractor for repair or adjustment. Defective tires rebuilt by Government facilities or from TACOM-qualified commercial sources will be retained as deficiency report exhibits.

(e) The current requirements of the Department of Transportation’s Federal motor vehicle safety standards for retread or repaired tires apply to the quality of military tires.

c. Source of repair. Vehicle tire retread service will be obtained in the following order of priority:

(1) Within continental United States.

(a) TACOM cross-service contract for tire retreading and repairing from local commercial sources.

(b) Local commercial sources by contract let by installation contracting officer when paragraph 8–21c (1)(a) is not reasonably available from a cost-effective standpoint because of the distance and transportation costs involved.

(c) GOGO.

(d) Government-owned and contractor-operated contracts.

(2) Outside continental United States.

(a) U.S. Army TDA units.

(b) Army depot operations of allied governments approved by DA. Government-loaned equipment may be authorized for use at these facilities.

(c) Government-owned and contractor-operated contracts.

(d) U.S. or foreign commercial facilities when approved by the local contracting officer.

d. Specifications. Retreading tires will be accomplished in compliance with the latest approved ASTM standard or military specifications and standards when appropriate. There will be no authorization for deviations from the directives listed below:

(1) Vehicle tire retreading will be accomplished only with the latest approved commercial ASTM standards as approved by TACOM.

(2) All vehicle repair and/or retread materiel for military Service requirements will conform to the latest edition of commercial ASTM material standards as approved by TACOM and/or applicable military specifications. GOGO and Government-owned and contractor-operated facilities will requisition materiel from the appropriate NICP. Military service contracts with commercial concerns will require repair and retread materiel to be in accordance with TACOM-approved ASTM standards and/or military specification, or be obtained from approved sources only.

(3) Aircraft tire retreading will be done per MIL–PRF–7726K, MIL–PRF–5041K, and the applicable military standards drawings.

e. Training.

(1) All commanders will ensure that training will be provided to all individuals who service single-piece or multipiece rims and wheels used on large vehicles. These individuals will demonstrate proficiency in their ability to perform specific tire, rim, and wheel tasks. Individual ability to perform these tasks will be evaluated and a record maintained documenting this evaluation. Contact the local TACOM LAR for tire care, maintenance, repair, demounting, and demounting training.

(2) In-depth tire training pertaining to pneumatic tire inspection, classification, repair, care, maintenance, and rebuild standards is conducted through TACOM. This in-depth training is targeted for all CONUS and OCONUS sustainment-level tire inspectors and maintenance managers.

(3) TACOM also provides onsite general tire maintenance training classes for CONUS and OCONUS at the unit location. This onsite training includes the basics needed for pneumatic tire inspection, classification, care, repair, and use of tire inflation safety cage and maintenance of tires. Safety cage training will include a pneumatic tire inflation gage and 10foot air hose. This training will be offered by TACOM at the unit's expense.

(4) CONUS and OCONUS tire maintenance training requirements may be coordinated with the Commander, U.S. Army Tank-automotive and Armaments Command (AMSTA-IM-LC-CJT (Tire Group)), Warren, MI 48397-5000.

(5) AMC will be technically prepared to carry out its mission of retreading tires in TDA activities in the event of mobilization. In-house capacity and facilities will be used to the extent necessary to retain up-to-date technical know-how and train personnel for inspection. Training must be justified under criteria prescribed in AR 5-20.

(6) SAE J2014 is the national military performance specification (MIL-PRF) for qualifying potential tire retreaders for military tactical wheeled vehicles (ground vehicles).

### **8-13. Tool Improvement Program suggestions**

*a.* Tool Improvement Program suggestions (TIPS) is a means for the users of tools to report deficiencies in tools; to recommend tools for deletion from, or addition to, SKOT; and to suggest modifications to tools that will improve the usefulness of the tools.

*b.* The DCS, G-4 (Maintenance Directorate) is the proponent for TIPS and will—

(1) Approve Army policy for TIPS.

(2) Resolve conflicts between Army agencies.

(3) Review and approve TIPS documentation developed by U.S. Army Combined Arms Support Command (CASCOM).

*c.* Commander, CASCOM is the responsible official for TIPS and will—

(1) Propose Army policy for TIPS.

(2) Establish procedures for functional and operational control of TIPS as follows:

*(a)* Receive, analyze, evaluate, coordinate, and staff suggestions and recommendations.

*(b)* Approve or disapprove TIPS initiatives and provide feedback to the suggester and evaluators.

*(c)* Ensure that approved initiatives are implemented.

*(d)* Maintain files and statistics for TIPS.

(3) Publicize the program to ensure Armywide awareness of TIPS and improvements and/or changes to SKOT.

*d.* When a suggester (military or civilian) experiences difficulty with a tool that impacts the unit mission, he or she is responsible for notifying the Army's responsible official for tools. This notification may be submitted in any reasonable format and by any means of documentation available, including data fax and/or electrical message. The initiative must be clearly stated; the problem should be explained and a proposed solution provided. See DA Pam 750-8 for specific guidance on TIPS initiatives. Initiatives must be addressed to U.S. Army Combined Arms Support Command, 3901 A Avenue, Suite 250, Materiel System Directorate, Fort Lee, VA 23801-1809.

*e.* Evaluators are subject matter and/or technical experts at TRADOC schools or AMC and/or TRADOC MSCs. The evaluator, when tasked, will conduct a complete evaluation of the initiative, including cost and/or time savings or avoidance, and return comments and recommendations to CASCOM within established time frames.

*f.* If the evaluator determines that a prototype tool is required for testing, CASCOM is notified. CASCOM will provide mailing instructions and a TIPS control number to the suggester. The suggester should provide a prototype tool only upon request. The suggester or the unit, upon the commander's approval, must bear the cost of providing required prototype tools.

### **8-14. National Maintenance Program**

*a.* General. The NMM is responsible for managing all sustainment-level reparable, including selected field reparable. All sustainment-level reparable will be repaired to the national standard that is defined as the highest published standard. Any exceptions, such as requirements to support contingency operations, must be approved by the NMM. The NMP distributes sustainment maintenance workload across depot and nondepot activities based on national need through a national requirements determination process. Implementation is the responsibility of the CG, AMC, with guidance and oversight by DCS, G-4 (Maintenance Directorate).

*b.* National Maintenance Plan purpose.

(1) Enhances responsiveness to sustainment maintenance requirements generated during peacetime, contingency, and wartime conditions by linking all levels of sustainment maintenance under the appropriate commodity command.

- (2) Implements the Army policy of repair as the primary SOS.
- (3) Implements the highest published standard as the national standard and the single standard for those items repaired and returned to the supply system.
- (4) Optimizes workload across existing maintenance capabilities and allows for reductions in capital investments to maintenance facilities and TMDE used in maintenance operations.
- (5) Develops and maintains a database of maintenance facilities, both organic and contract, and is responsible for ensuring minimal redundancy of maintenance capabilities and capacities.
- (6) Ensures all repairs will be demand supported and based on Army requirements. The program will not repair items in long supply.
- (7) Consolidates all sustainment maintenance workload in depots, on national maintenance contracts or at non-depot maintenance activities.
- c. Responsibilities.
  - (1) The NMM is the focal point for all AMC Integrated Materiel Management Center requirements and for ensuring that the Army sustainment maintenance workload is based on national need. Responsibilities include—
    - (a) Ensuring that sustainment maintenance providers possess a documented quality management system.
    - (b) Ensuring that sustainment maintenance providers possess the facilities, tools, TMDE, skills, and workforce required to meet the national standard.
    - (c) Determining, in coordination with ACOMs, ASCCs, and DRUs, based on need, the nondepot activities to be surveyed for qualified national provider qualification.
    - (d) Balancing repair capacity, cost, and production schedules to meet total Army requirements, including requirements to support repair parts no longer in production and repair parts for older equipment in the Army inventory.
  - (2) The AMC MSCs will have management responsibility to consolidate all maintenance requirements and present them to the NMM, to technically certify sources of repair and to develop appropriate maintenance procedures to meet the Army standard.

## **8–15. Maintenance Assistance and Instruction Team Program**

- a. The MAIT Program is designed to—
  - (1) Upgrade Army materiel and units to a state of readiness consistent with assigned goals needed to carry out the Army mission.
  - (2) Develop unit capabilities to meet mobilization and contingency operations.
  - (3) Ensure that commanders at all levels are provided assistance in identifying and resolving maintenance, supply, and maintenance management problems within their units.
  - (4) Provide effective and responsive assistance and instruction to units and activities.
  - (5) Augment the commander's capability for providing maintenance and associated logistic assistance, instruction assistance, and instruction to organic, attached, and supported units.
  - (6) Identify systemic problems in maintenance management and provide assistance to improve management of maintenance workload at field and sustainment levels.
  - (7) Generate an atmosphere of mutual trust between the MAIT and the supported unit. This allows unit personnel to participate actively in problem identification and resolution without fear that any derogatory information will be used as a basis for adverse command action.
- b. The DCS, G–4 will—
  - (1) Develop the MAIT Program.
  - (2) Approve or disapprove requests for program changes or deviation.
- c. Major Army commanders, except the CG, AMC; CG, TRADOC; CG, U.S. Army Criminal Investigation Command, and the Commander, Military Traffic Management Command, will—
  - (1) Establish a MAIT Program to support Regular Army units.
  - (2) Establish a MAIT Program at the Regional Readiness Command or comparable level to support Army Reserve units.
  - (3) Ensure that MAITs are technically self-sufficient for the routine support mission.
  - (4) Provide for the temporary augmentation of MAIT to fill short-term or infrequent requirements for equipment and management skills not available from local resources.
  - (5) Ensure that sufficient funds and personnel are budgeted and allocated for MAIT operations.
  - (6) Coordinate technical assistance programs to provide maximum benefit to supported units with minimum resources.
  - (7) Ensure that any acronym that could be misconstrued as being MAIT is not used.
  - (8) Review MAIT operations annually to ensure maximum program effectiveness.

(9) Submit recommendations for MAIT Program improvement or deviation to DCS, G-4 (DALO-SMM), 500 Army Pentagon, Washington, DC 20310-0500.

(10) Upon request, provide backup MAIT support to units of the ARNG. Such support should be reciprocal and is normally reimbursable.

(11) Schedule periodic conferences between ACOM, ASCC, DRU, CONUS, and/or installation MAIT coordinators to highlight and resolve conflicts in policy and procedures. All conference participation will be approved in accordance with current Army conference policy before committing / obligating any Army appropriated funds.

*d.* The CNGB will ensure that MAIT Program services are furnished to units of the ARNG.

*e.* Corps, divisions, separate brigades, installations and senior level ARNG and RSC commanders will —

(1) Have operational control of assigned MAITs.

(2) Ensure that MAIT members are technically competent and possess the ability to provide quality assistance and instruction.

(3) Ensure that assigned MAIT personnel receive training to maintain technical competence and remain current with changing logistics policies and procedures and instructional techniques. The MAIT will receive NET.

(4) Request assistance from supporting activities and/or higher headquarters to correct problems that cannot be corrected within the command.

(5) Request, through channels, modifications to TOE and/or MTOE or TDA for personnel and equipment in support of the MAIT Program.

(6) Provide resources needed to carry out the MAIT Program.

(7) Periodically evaluate MAIT performance and effectiveness.

(8) Provide for periodic conferences between MAITs and evaluation and inspection teams to highlight and resolve possible conflicts in interpretation of logistic policy and procedures. All conference participation will be approved in accordance with current Army conference policy before committing / obligating any Army appropriated funds.

*f.* Commanders of units visited will—

(1) Ensure that appropriate personnel, materiel, and records are available for the MAIT during scheduled assistance and instruction visits.

(2) Take prompt action to correct problems.

(3) Request assistance from supporting activities and/or higher headquarters to correct problems that cannot be corrected by the unit.

(4) Retain the latest two MAIT visit summaries.

*g.* MAIT Program policy will include the following:

(1) The MAIT Program will be operated as a decentralized program.

(a) 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.

(b) The teams will be clearly identified in mission and function statements or operating regulations.

(c) A MAIT 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 according to AR 5-9.

(2) Personnel assigned to a MAIT will not participate in command inspections, annual general inspections, AT evaluations, spot checks, roadside inspections, command logistics review teams, or any other command evaluation program.

(3) 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.

(4) MAIT visits will not be scheduled during any inspection.

(5) Commanders of units visited are provided a summary report of the visit.

(6) MAIT visit results and summaries will not be given ratings or scores, nor will the information be revealed to any inspection agency. When the MAIT function is contracted, MAIT visit results will be available to quality assurance evaluators.

(7) MAITs provide semiannual overview briefings or published status reviews to brigade, division, corps, installation, and senior-level RC commanders. Briefings should highlight significant problems encountered that apply command-wide but will not identify specific units involved. Special emphasis is placed on providing the commander an overall assessment of conduct and supervision of PMCS within the command.

*h.* MAIT procedures will encompass the following:

(1) The MAIT consists of the minimum number of specialists required to meet the needs of the visited unit.

(2) MAIT 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.

(3) Participation by field-level Soldiers in MAIT visits is encouraged.

(4) Coordination between the unit and Regular Army MAITs will take place at least 7 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.

(5) MAITs, as a minimum, will have the capability to assist and instruct units in improving operations and management in the following areas:

- (a) Operator requirements.
- (b) Preventive maintenance and equipment repair.
- (c) Equipment condition and serviceability.
- (d) Materiel condition status reporting.
- (e) Administrative storage.
- (f) Maintenance records and reports management.
- (g) Calibration management.
- (h) Proper use of tools and test equipment, troubleshooting, and fault diagnosis.
- (i) Maintenance personnel management and training.
- (j) Publications account management, distribution of publications, and proper use of publications.
- (k) Shop layout.
- (l) Planning, production, and quality control procedures.
- (m) Safety.
- (n) Shop operations, including SOPs.
- (o) Facilities.
- (p) PLL procedures and PLL accountability.
- (q) Equipment recovery and evacuation.
- (r) Proper implementation of the Army Warranty Program.
- (s) Army modernization training.
- (t) AOAP.
- (u) DOD Phoenix Award.
- (v) U.S. Army Award for Maintenance Excellence.
- (w) QDRs.
- (x) Scheduled services.
- (y) CARC and/or CPP.
- (z) Hazardous materiel handling.
- (aa) Tire maintenance.

(6) The MAIT will consist of a 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.

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

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

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

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

(10) MAIT 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.

(11) Responses to a request for assistance and instruction will be made by—

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

(12) MAIT visits are categorized as—

(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.

- (13) Requested and directed visits will be given precedence over programmed visits.
- (14) To ensure effectiveness of the program, the MAIT chief will provide the commander of the unit to be visited with the guidance shown below. It should be stressed that a minimum of unit preparation is desired.
- (a) Key personnel are to be made available, including crews and operators who will receive assistance and instruction.
  - (b) Materiel records and reports to support assistance and instruction are to be made available but not formally displayed.
  - (c) Unit personnel are to be made available as guides to accompany MAIT members to the assistance and instruction site.
  - (d) Tools, equipment, and supplies needed for assistance and instruction are to be made available.
  - (e) Equipment required for training during MAIT visits will be configured as needed. Formal layouts and displays are discouraged.
- (15) Procedures for the conduct of MAIT visits depend on the type of assistance and instruction to be provided. In providing responsive assistance and instruction to the unit in need, the MAIT will provide—
- (a) Assistance and instruction on materiel, records, procedures, and reports as requested or identified by the units or by higher headquarters.
  - (b) Assistance and instruction, as determined by MAIT, through review of materiel, records, procedures, and reports.
- (16) The amount of materiel, records, and reports reviewed will be governed by—
- (a) Unit commander's recommendation.
  - (b) Availability of materiel, records, and reports.
  - (c) Available time for both the MAIT and the unit visited.
- (17) Operators and field maintenance personnel will perform preventative maintenance checks and/or service requirements on selected materiel according to applicable technical publications. The results will be recorded on equipment inspection and maintenance worksheet(s). Assistance and instruction team members will observe their performance and provide assistance and instruction as needed.
- (18) Upon conclusion of the visit, the MAIT chief 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 requiring 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 chief will submit this letter to the organization, headquarters, activity, or agency capable of taking action. The chief will also furnish a copy of the letter to the commander of the unit visited.
  - (d) Give a MAIT evaluation questionnaire to the unit commander.
- (19) The unit commander will assess the performance of individual team members and the quality of assistance and instruction provided. This will be accomplished by completing the questionnaire provided by the MAIT chief.
- (20) The success of the MAIT Program depends largely on the quality of the assistance and instruction provided. To enhance the program, it is essential that the MAIT capabilities be widely publicized. Suggested methods are flyers, daily bulletin notices, 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 lessons learned.
  - (b) Logistics information of general interest.
  - (c) Solutions to common problems encountered by MAIT.
  - (d) Situations that require quick remedial action.
  - (e) Mobilization.
- (21) The primary duty of MAITs 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.
- (22) Team integrity should be retained, where possible, in order to facilitate efficient return to peacetime operations.
- (23) Consideration will be given to the allocation of mobilization augmentees for assignment to MAITs.
- (24) Records and reports will be handled as follows:



(a) The MAITs will maintain a DA Form 5480 (Maintenance Request and Assignment Register) of visits conducted. All time expended by team members, including hours for responding to telephone requests, will be shown on the register. These data will be used to support requests for additional TDA spaces or to defend existing MAIT manning levels.

(b) 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.

(c) For a requested visit, two copies of the visit summary are prepared, three if a commander for a subordinate unit requested the visit. One copy will be furnished to the commander of the unit visited, one copy to the commander (if requested for a subordinate unit), and one to the MAIT privileged information file.

(d) For a directed visit, three copies of the visit summary are prepared. One copy will be furnished to the commander of the unit visited, one to the commander directing the visit, and one to the MAIT privileged information file.

(e) For a programmed visit, two copies of the visit summary are prepared. One copy will be furnished to the commander of the unit visited and one to the MAIT privileged information file.

(f) The MAIT 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.

### **8–16. Command Maintenance Discipline Program**

The Command Maintenance Discipline Program (CMDP) is a commander's program. It does not prohibit or replace the formal or informal evaluation of maintenance programs conducted at the discretion of commanders such as MAIT, COMET or IG inspections. The CMDP is a tool to evaluate unit maintenance programs on a day to day basis. The CMDP is oriented to combat readiness and sustainability. The overriding principle of CMDP is the Soldier's and units' abilities to maintain their equipment in any environment. The overall procedures for the CMDP are contained in DA PAM 750–1, Chapter 10.

### **8–17. Unique Item Tracking Program**

a. UIT by serial number of selected items and installed components is required by DLM 4000.25–2, DODM 4140.01, and AR 710–3. The objective of the UIT Program is to maintain visibility of each uniquely identified asset for the primary purpose of inventory control and/or engineering analysis. Security, accountability, safety, maintenance, operational readiness, warranty applicability, and other areas that may benefit from the tracking process will be subsets of the inventory control or engineering analysis functions.

b. UIT reporting requirements for Army-controlled small arms, security risk I nonnuclear missiles and rockets, CCIs, and radiological testing and tracking assets are set forth in AR 710–3. Additional assets for which serial number tracking via UIT is deemed necessary will be approved by the DCS, G–4 (Maintenance Directorate).

c. All assets within the supply system subject to UIT will be tagged with a UII that specifically identifies individual assets being controlled or managed. A UII can be the item's serial number, and the vehicle identification number, as long as no other UIT asset has the same identifier within the NSN or NIIN. Installed components, as specified in AR 710–3, also require UII assignment.

d. All UIT programs will include provisions for data entry and tracking using AIT. In that regard, MATDEVs will ensure that new procurements of serial-number-tracked assets include provisions for AIT-readable serial number markings to be applied during manufacture.

### **8–18. Serialized Item Management Program**

a. DODI 4151.19 establishes a Serialized Item Management (SIM) Program, which tasks the Military Department and Defense Agencies to:

- (1) Identify populations of select items (parts, components, and end items).
- (2) Mark each item in each population with a UII.
- (3) Generate, collect, and analyze maintenance, logistics, and usage data about each specific item.

b. The overarching goals of the Army SIM is to increase weapons system readiness, reliability, and safety; create life cycle asset visibility; and provide a reduction in ownership costs through enhanced, efficient and effective weapons system sustainment operations. These goals will be achieved by creating a global, unified supply chain—one that is capable of projecting, sustaining, maintaining, and reconstituting combat power under the full range of operational scenarios—that performs with complete visibility and control of all relevant assets, equipment, and materiel.

c. This policy applies to all Army activities and directs the development and execution of broad-based SIM programs that make data about specific items, unique within their respective total populations, readily available for life cycle management.

d. SIM programs will enable an effective life cycle management of items by identifying populations of select items (parts, components, and end items), requiring all items within these select populations to be marked with a UII, and enabling the generation, collection and analysis of logistics data about each uniquely identified item.

e. All Army activities will update applicable policy directives, regulations, and pamphlets for which they are the policy proponent. In addition, automated information systems and related software will be updated as required to implement this policy. To optimize the process, all references to management by serial number will be modified to require and enable management by UII.

## **8–19. Ground Safety Notification System**

a. The Ground Safety Notification System is used to disseminate high-, medium-, and low-safety messages to the field. These messages include the SOUM and the ground precautionary message (GPM).

b. When a materiel defect or hazardous condition that can cause death or injury to Army personnel or damage to Army equipment is discovered, a Ground Safety Notification System message is prepared in accordance with AR 750–6 and a SOUM or GPM 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 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 (Maintenance Directorate), 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, the procedures in paragraph 8–18c will be followed.

(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 GPM is issued when the risk condition assessment is a medium or low safety risk according to AR 385–10. The following procedures apply:

(1) For a medium safety risk condition for which the program sponsor has determined that a SOUM is not required, a GPM 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 GPM and staffs it within the appropriate AMC commodity command, with approval for release by the appropriate AMC commodity commander.

(3) All GPMs are to be transmitted as routine precedence messages.

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

e. SOUMs and GPMs 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 and/or GPM to the originating organization and/or office listed on the message. If the ACOM, ASCC, and DRU fails 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 GPMs within 24 hours to all subordinate units according to AR 25–1.

h. Compliance actions:

(1) ACOMs, ASCCs, and DRUs will develop compliance reports as required by the SOUM and/or GPM.

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

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

## **8–20. Maintenance advisory message**

A maintenance advisory message provides new or different pertinent nonsafety-related maintenance or operational instructions and information. Prior to publishing, all maintenance advisory messages will be coordinated through the appropriate AMC commodity command safety office to ensure their content is not safety related. The only authorized method of informing ACOMs, ASCCs, and DRUs of hazardous equipment conditions is through the Ground Safety Notification System.

## **8–21. Army Corrosion Prevention and Control Program**

- a.* The Army CPC Program responsibilities and guidance are in accordance with AR 750–59.
- b.* 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.
- c.* CPC will be achieved by 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.
- d.* There are several proven technologies and/or procedures that units can employ to reduce the effects of corrosion on their equipment; two examples 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 1 to 3 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 1 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.
    - (d)* 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. CPC inhibitors can be applied by field-level personnel and are encouraged as a minimum measure to prevent the effects of corrosion.
    - (a)* Only the use of approved CPC products is authorized.
    - (b)* The AMC, U.S. Army Research Laboratory is the approval authority for these products.

## **8–22. Army Battery Program**

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

- a.* Lead-acid batteries. Commanders will use batteries prescribed by the technical and equipment manual. Valve Regulated Lead Acid (VRLA) and Absorbed Glass Mat, enhances system performance and reduces logistics burden; therefore, commanders will order and use sealed batteries as batteries require replacement. MATDEVs will ensure that suitable 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 as per the technical and equipment manual. VRLA and flooded wet cell is not authorized to be mixed.
  - (1) Equipment operators and/or crews are responsible for visually inspecting installed lead-acid batteries for cleanliness and obvious damage in accordance with applicable operator TMs. Operators and/or crews will report faults using the TAMMS to their field maintenance activity for action.
  - (2) Field maintenance activities are authorized to inspect, add distilled water (flooded wet-cell only), install, remove, test, and conduct recharging of batteries installed in and/or on authorized equipment.
  - (3) Field-level and sustainment-level maintenance activities conducting a battery recovery and recharging mission are authorized to inspect, add distilled water (flooded wet-cell only), install, remove, test, and conduct recharging of batteries installed in and/or on authorized equipment, properly fill, activate, charge, recharge, issue, and/or reissue, diagnose, test, recover, and temporarily store serviceable and/or unserviceable batteries and related support materiel. The DLA consignment program or local contract will initially fill and charge batteries and issue them “flooded wet (only by exception) or VRLA” to units. Use of the DLA consignment program or other local contract is required when available. Local command policy may augment these actions to take climate and other circumstances into consideration. Applicable host country turn-in and disposal procedures apply.
  - (4) If the DLA consignment program or contractor support is unavailable (during or shortly after initial deployments to an area of operations), field-level or equivalent or higher level maintenance activities may temporarily operate a regulatory compliant battery shop (fixed or mobile) using approved equipment. These maintenance activities can return unserviceable batteries to FDP SSA and/or supported units. If unable to return batteries to a serviceable condition, applicable unit turn-

in and disposal procedures apply. During initial stages of deployment, a supply of automotive batteries can accompany the unit until more sustained support (units, contractors, and DLA battery consignment) can provide requisite support.

(5) Commanders will ensure that all battery maintenance management programs are operated in an Occupational Safety and Health Administration/Environmental Protection Agency compliant manner.

(6) Army Prepositioned Stock/COSIS/Low Usage/Administrative Storage/Long Term Storage. Equipment in long term or low usage programs (LUPs) 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 are batteries maintained on approved maintainer/conditioning equipment. Commanders will use approved solar maintainers for equipment in LUPs or in outdoor storage.

*b.* 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) Which 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 communications and electronics 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) Barriers to using rechargeable batteries and what actions will be taken to eliminate the barriers.

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

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

(h) Locations using large numbers of primary batteries should develop a lithium (disposable) battery recovery and reuse program.

(i) 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.

1. Commanders may use rechargeable batteries based upon short supply.

2. Commanders may use rechargeable batteries 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 -4 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.

(4) 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 program, as necessary.

## **8–23. Nuclear Hardness Maintenance and Hardness Surveillance Program**

*a.* Objective. The objective of the Nuclear HM and/or HS Program is to ensure the survivability of mission critical systems to the effects of nuclear weapons; to protect the investment made in hardening systems; and to ensure compliance with DODI 3150.09, which directs the Secretary of the Army to “Ensure an Nuclear HM and/or HS Program is established and maintained for those chemical, biological, radiological, and nuclear mission-critical systems that are hardened for nuclear survivability.”

*b.* Applicability.

(1) The Nuclear HM and/or HS Program applies to those systems that are identified as mission critical by their capabilities documents, that have nuclear survivability requirements, and that incorporate hardening to meet those requirements, in accordance with DODI 3150.09. The U.S. Army Nuclear and Combating Weapons of Mass Destruction Agency maintains the list of Army mission critical systems with nuclear hardness requirements.

(2) The systems hardness are the aspects of the system that protect it from initial nuclear weapons effects, including high-altitude electromagnetic pulse, initial nuclear radiation, blast, and thermal radiation.

- (3) This maintenance policy is independent of hardness assurance.
- c. Program policy.
  - (1) Hardness maintenance.
    - (a) HM is a unit responsibility. Effective nuclear HM depends on proper maintenance in accordance with a system's TMs. HM begins with routine PMCS.
    - (b) MATDEV will develop checks and services requirements and ensure they are included in mission critical systems' TMs.
    - (2) Hardness surveillance.
      - (a) HS is the responsibility of the MATDEV. HS will be conducted while the system is located at depot maintenance and inspected by a U.S. Army Test and Evaluation Command engineer. HS service checks must be completed before any standard maintenance work is done.
      - (b) The intent of HS is to monitor the HM Program and ensure the system's integrity remains intact through its life cycle. HS will be based on a portion of the fielded fleet.
  - d. Responsibilities.
    - (1) MATDEV will—
      - (a) Ensure that nuclear HM checks and services are incorporated into a system's TMs. These checks and services include but are not limited to ensuring wire casings are serviceable, critical items are properly grounded, and electrical connections are free of corrosion.
      - (b) Ensure that detailed life cycle HM and/or HS Programs are incorporated into the SS, in accordance with DA Pam 700–127. In the SS, include maintenance concepts, requirements and procedures for nuclear HM and/or HS procedures to assure the nuclear hardness of the system throughout its life cycle. Maintenance actions, replacement of parts, modifications and other life cycle changes require a reassessment of the system's vulnerability.
      - (c) Include life cycle surveillance and maintenance of electromagnetic environmental effects shielding or hardening features in the ILS assessment and planning processes, in accordance with DA Pam 70–3. The MATDEV will consider the following in support of HM and/or HS planning: maintenance planning, technical data, training and training support, computer resources support, and design interface. Equipment technical publications will delineate and describe nuclear HM and/or HS requirements.
      - (d) Verify HM and/or HS maintenance procedures and review the technical publications during the logistics demonstration. The MATDEV will incorporate HM and/or HS into logistics demonstration testing. Implement maintenance test, evaluation, and demonstration requirements through the ILS process in AR 700–127. Summarize the logistics demonstration requirements the system's TEMP in accordance with DA Pam 700–127.
      - (e) Coordinate with AMC to plan, program, and budget for HM and/or HS requirements as part of the life cycle cost estimate in accordance with DA Pam 70–3.
    - (2) CAPDEV, in coordination with the MATDEV, will prepare the SS during the initial phase of drafting the CDD in accordance with DA Pam 700–127. The SS ensures that only support analysis tailored to the program needs are accomplished for development of ILS element requirements and constraints and to identify the supportability design requirements. This information must be consistent with the ILS information contained in the initial capabilities document.
    - (3) AMC will—
      - (a) Coordinate with MATDEVs to ensure sufficient funds and personnel are budgeted and allocated for HM and/or HS.
      - (b) Incorporate HS into depot-level maintenance for mission critical systems.
      - (c) Integrate into existing quality control procedures.
      - (4) U.S. Army Test and Evaluation Command will—
        - (a) Provide technicians to AMC upon request to support HS.
        - (b) Set up a schedule in coordination with AMC for inspection of vehicles at depot maintenance.
      - (5) ACOM, ASCC, and DRU commanders; Chief, USAR; CNGB will—
        - (a) Ensure HM inspections, in accordance with a system's TMs, are incorporated into unit maintenance.
        - (b) Ensure maintenance personnel are trained in nuclear HM.

## Chapter 9

### Equipment Reset

#### 9–1. General guidance

The Army conducts activities to restore the Army's personnel and equipment to a desired level of combat capability commensurate with future missions and maintains accurate visibility over equipment repair, replacement, recapitalization and expenditures in order to sustain equipment availability and meet operational requirements. Equipment reset is a subset

process for field and sustainment maintenance within the Army RESET force pool of the ARFORGEN readiness strategy. AR 525–29 contains specifics regarding ARFORGEN and RESET.

## **9–2. Equipment reset principles**

The Army will measure unit RESET as the unit leaves the available phase of ARFORGEN until it enters the train/ready phase. The Army will track unit reset via the unit status report and Army reset common operating picture (RCOP). The correct nomenclature for the date to start reset is “reset start date (RSD)” or in time, the day the unit leaves the available phase +1 day. Redeploying units will begin reset at return + 51 percent of personnel returning to home station. The following logistics tasks support successful execution of equipment reset.

*a. In-theater phase.* Is defined as the 180-day period leading up to the unit’s redeployment date, for example, required delivery date. For rotational force pool units, this phase is 180 days prior to RSD.

(1) All units will claim and execute Automated Reset Management Tool (ARMT) field and sustainment plans by RSD and/or reset predeployment (RPD)–120 (claim) and –90 days (execute). Disposition guidance provided in the ARMT plans determines if units will turn-in 100 percent of their automatic reset induction (ARI) items prior to RPD. Rotational force pool units will not turn-in ARI unless directed by ARMT.

(2) Units scheduled to receive LCMC special repair teams for field-level repairs at home station will receive support for the following types of equipment: small arms and optics, chemical biological equipment, and communication and electronics. USAMMA schedules medical equipment field-level reset and CECOM schedules C4ISR reintegration with the units during reset. Rotational force pool units will not reset with special repair team support unless funded by their higher headquarters. Mission force pool units may receive special repair team support during reset either as direct funded by HQDA or reimbursable. The Deployment Execution Order will prescribe the level of support the unit will receive.

(3) Commanders will ensure that hand receipt holders conduct 100 percent eyes on and/or hands on inventory of all equipment to include all COEI; sets, kits and outfits; and BIIs prior to RPD. Turn in all excess property or add to property books if authorized. Give special emphasis to adding newly fielded items to property books and accounting for sensitive and high-value items.

(4) All units will turn-in 100 percent of their battle-loss equipment and adjudicate property book discrepancies prior to RPD. This may require TIs to verify CCs and disposition instructions to ensure all battle losses are turned-in prior to redeployment.

*b. RESET phase.* Is defined as RSD and/or RPD to +180 days AC and RSD and/or RPD +365 for RC. The Army executes field and sustainment-level reset to repair unit equipment to TM 10 series and TM 20 series standard.

(1) Merge property books and receive LBE for redeploying mission force pool units. Specifics regarding LBE policy are in DA Pam 750–1 and in this regulation. Depending on the deployment mission, units may determine to sustain equipment using unit maintained equipment processes. Rotational force pool units will normally sustain equipment by using unit maintained equipment processes.

(2) ASC finalizes LBE equipment serviceability at RPD +90 to RPD +180 for AC units. Equipment serviceability is at AMC LOGSA’s LBE Visibility Tool and Unit Reset Planner.

(3) ARMT provides the initial field-level reset plan and turn-in timeline @ RSD and/or RPD +90 to EAB maintenance units and DOLs via AMC LOGSA Unit Reset Planner and the Army RCOP. The field-level reset metric is R2 by RSD and/or RPD +180 for AC units and RSD and/or RPD +365 for the RC.

(4) Unit-level maintenance operations normally begin at RPD +90 to RPD +180 days (AC) and/or 365 days RC. Visibility is via AMC LOGSA Unit Reset Planner and RCOP. Rotational force pool units will begin field-level reset at RSD.

(5) The initial ARMT plan also determines sustainment-level reset requirements and equipment disposition to the SOR with visibility through the AMC LOGSA Unit Reset Planner and the RCOP.

*c. Train/ready phase.* Is defined as RSD and/or RPD +181 for AC and RSD and/or RPD +366 for RC units to latest arrival date.

(1) Units monitor and report equipment serviceability via Network Unit Status Report.

(2) Beginning 90 days before latest arrival date and/or available force pool, units begin identifying LBE (if deploying), ensure property accountability and begin splitting property books.

## **9–3. Automatic reset induction**

*a.* The ARI list contains items that are automatically sustainment-level reset. The Army placed items on the ARI list because of expected extensive wear and tear experienced in-theater that requires refurbishment or rebuilding. Unless the unit receives a waiver, units will turn-in 100 percent of ARI equipment before they depart theater.

*b.* Sustainment-level reset is initiated through a supply transaction. The equipment is taken off the property book and the unit requisitions and receives a similar piece of equipment at home station.

#### **9–4. Intensively managed items**

*a.* Intensively managed items (IMI) is equipment that is automatically inducted into a sustainment-level reset program as a maintenance transaction and remains on the unit property book. HQDA has placed items on the IMI list because of expected extensive wear and tear experienced in theater.

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

- (1) Unit reset plan is executed through ARMT for Class VII items.
- (2) LCMCs will provide disposition instructions and specific contact information on these items for turn-in.
- (3) IMI is a maintenance transaction, which will require a work order using SAMS–E maintenance process.
- (4) IMI items are turned in “as is” condition, either shipped to SOR or to home station prior to turn-in.

#### **9–5. Medical sustainment items**

*a.* Clinically relevant medical equipment in the U.S. Central Command AOR, returned to home station with the unit for induction into a sustainment maintenance reset program. Medical sustainment items (MSI) turned-in at home station may be a supply or maintenance transaction.

*b.* USAMMA provides a reset medical fielding team with the primary purpose of inducting medical MSI at home station and to simultaneously field new or refurbished and/or recapitalized medical equipment and sets.

- (1) Units retain accountability in the AOR and ships items to home station.
- (2) Units coordinate with the LCMC item manager and/or SOR to reset items.
- (3) Items are reset at home station (repaired or exchanged) and returned to the unit.

#### **9–6. Automated Reset Management Tool**

*a.* The ARMT provides an automated capability for unit commanders to plan reset by claiming and executing both field and sustainment-level plans. Once executed, plans trigger centralized visibility of the equipment reset for units as they migrate through the RESET force pool. ARMT also provides a collaborative integrated tool for commanders to view reset planning and disposition for equipment.

*b.* AMC LOGSA has enhanced this tool to allow the automatic build of reset plans, which has eliminated the need for units to build ARMT plans. ARMT auto-generates reset plans for UICs using Property Book Unit Supply Enhanced data to identify on-hand equipment eligible for reset in the following categories: ARI, IMI, MSI, special repair teams, and field maintenance by the unit, EAB support unit, and LRC.

*c.* AMC LOGSA builds plans at deployment (D) + 30 days (for a deploying mission force pool unit) or 30 days after entering the available force pool for rotational force pool units. Plans are available to claim and execute at any time after that, but no later than RSD and/or RPD -90 days. However, units should claim plans at RSD and/or RPD -120 due to possible battle losses and lateral transfers. Once executed, the LCMCs provide disposition instructions the SORs for workload planning.

*d.* ACOMs, ASCCs, and DRUs will ensure redeploying units induct all equipment no later than 30 days after its arrival at home station.

#### **9–7. Army reset common operating picture**

*a.* AMC developed and automated the RCOP as a tool to portray reset data, as well as LBE. The RCOP gives commanders a complete picture of their overall reset status. The tool will also standardize reporting and serve as a central repository for unit reset completion. Units are responsible for tracking field-level reset execution and completion.

*b.* Units will use the RCOP to track and report reset operations and completion while they are in the RESET phase. Units must update RCOP (found in LIW) a minimum of once per month or as directed by their higher headquarters. The ACOM, ASCC, DRU Headquarters will set the monthly report date in coordination with DCS, G–4 (DALO–MNF (Maintenance Directorate)).

*c.* AMC LOGSA teams will train RCOP users upon request; however, it is the unit’s responsibility to begin reporting upon return +60 days for redeploying mission force pool units and at RSD for rotational force pool and nondeploying mission force pool units. RCOP training should occur before the return date or RSD.

## Chapter 10

### Left Behind Equipment

#### 10-1. General

*a.* LBE is used during contingency operations upon HQDA approval. LBE is maintenance significant items on the unit property book that remains at home station after the unit deploys. LBE is accounted for and sustained at home station until the unit returns or is redistributed in support of HQDA equipping priorities, or as otherwise directed by the ACOM, ASCC, or DRU to which it is assigned. The AMC assumes accountability and responsibility for the equipment and ensures that it is properly accounted for and maintained to support the ARFORGEN process.

*b.* AMC is the Army's lead agent to perform maintenance on LBE in CONUS and within U.S. Army Pacific. AMC will coordinate with Headquarters, FORSCOM to maintain LBE and PDTE. AMC will coordinate with the MEDCOM, the lead for life cycle management of Class VIII materiel, to maintain medical LBE. Overseas CONUS ASCCs and DRUs will administer and perform their own maintenance programs, including funding.

*c.* FORSCOM, U.S. Army Pacific, and/or CONUS DRUs (less the ARNG) and RC, in coordination with the AMC, will identify MSI not required for deployment as equipment to be left behind at home station.

*d.* AMC will coordinate with MEDCOM for maintenance requirements and any required transfer of class VIII materiel.

*e.* In order to ensure that units have sufficient and ready equipment on which to train or with which to deploy, DCS, G-4, in coordination with DCS, G-8, FORSCOM, U.S. Army Pacific, and CONUS DRUs, will publish an equipment inspection and repair priority and provide it to AMC. The list will be updated semi-annually in order to meet Army requirements.

(1) AMC will induct LBE, perform PMCS and conduct maintenance in accordance with the HQDA equipment inspection and repair priority list.

(2) The installation SC may provide input, as required, to the equipment inspection and repair priority list. Additions will be coordinated with the appropriate ACOM, ASCC, and/or DRU G-4 and the Army Field Support Battalion.

*f.* Deploying units will identify anticipated LBE to their supporting AFSB not later than 90 days prior to equipment transfer date. AMC will coordinate with MEDCOM to inventory, maintain, and to determine disposition for Class VIII materiel in the LBE Program.

*g.* LBE will be transferred to AMC at TM 10 series and TM 20 series standards. Requests for exception to this standard will be submitted to the DCS, G-4 through the deploying unit's ACOM, ASCC, and/or DRU G-4 (with copy furnished to AMC). Deploying units and AMC elements will perform a Joint PMCS in accordance with the technical and equipment manual prior to transfer. AMC will coordinate with the owning ACOM, ASCC, and/or DRU for assistance with PMCS on Class VIII materiel or request assistance from MEDCOM, as required.

*h.* Maintenance and service records for all LBE will be transferred to AMC electronically by the deploying unit. AMC elements on installations will transfer maintenance and service records back to the receiving unit upon LBE reissue.

(1) If the ACOM, ASCC, DRU, and/or AMC cannot come to agreement on the condition of LBE prior to induction or redistribution, they will contact the DCS, G-4 for adjudication and final decision.

(2) Equipment condition for hand receipt of LBE to the RDE is TM 10/20 complete or with shortage annex in accordance with AR 735-5.

(3) LBE may be turned in to AMC at less than TM 10/20 condition, for example, at FMC or in a maintenance work order status, if the unit has less than or equal to 12 months dwell or less than 75 days between the mission rehearsal exercise and available load date. AMC will not accept non-TM 10 series and TM 20 series equipment turned in outside the timelines above unless a waiver has been approved by the DCS, G-4.

(4) Equipment turned in at less than TM 10 series and TM 20 series condition because of dwell or time between the mission rehearsal exercise and available load date will have all repair parts ordered and/or work ordered to the appropriate SOR.

(5) ARNG will perform maintenance of LBE in coordination with AMC at TM 10 series and TM 20 series standards and retain maintenance responsibility. Funding will be provided through headquarters, AMC. ARNG will provide AMC funding reports as requested by AMC.

(6) U.S. Army RC, in coordination with FORSCOM and AMC, will perform and fund maintenance of LBE at TM 10 series and TM 20 series standards.

*i.* Equipment job ordered to an SOR upon designation as LBE may still be transferred to AMC. Units are responsible to notify the SOR that equipment has been transferred to AMC as LBE.

*j.* Inbound Class II and Class VII MSI will become LBE if received after the unit deploys. Non-MSI equipment will be received and maintained by the rear detachment.



## **10–2. Left behind equipment lateral transfer and temporary loan**

- a. Loaned equipment must be provided to the user at a minimum of FMC condition.
- b. Lateral transfers will be at TM 10 series and TM 20 series standards. Equipment may be issued to the gaining unit with a shortage annex and parts on valid requisition to achieve TM 10/20 standard.
- c. LBE must receive a Joint PMCS by AMC and the unit prior to transfer unless the gaining unit and/or command agrees to take the equipment in an as-is condition with shortage annexes completed.
- d. LBE identified for lateral transfer to a “next to deploy unit” will receive the highest level maintenance priority.

## **10–3. Early return equipment**

- a. In accordance with ASCC guidance, deployed units may elect to redeploy equipment to home station prior to the unit’s relief in place and/or transfer of authority.
- b. Once approved to conduct early return equipment (ERE), the supporting AFSB will assist the unit with building the ARMT plan for ERE returning to home station. ERE identified as ARI items and/or AMC IMI and not shipped to home station will be entered in the Unit Reset Planner for disposition to the appropriate sustainment maintenance activity.
- c. AMC will coordinate transportation and work order equipment to the SOR. Priority of maintenance is in accordance with LBE repair priorities established by the HQDA, ACOM, ASCC, and DRU.
- d. MC will induct all MSI ERE into LBE maintenance program under the unit’s derivative UIC and re-issue to the redeploying unit in accordance with reset timelines.
- e. ERE requiring sustainment-level maintenance reset (or that is on the ARI list) will not follow these procedures. Deployed units will coordinate with their supporting AFSB to turn-in ERE requiring sustainment-level maintenance to AMC in the AOR.
- f. Regardless of ERE type (ERE requiring field-level reset or ERE requiring sustainment-level reset), the deployed unit will develop an ARMT plan specific to ERE, and the supporting AFSB will assist deployed units in creating an ARMT plan specific to their ERE.

## **10–4. Low usage programs**

- a. LBE entered into low usage maintenance programs will be inducted at TM 10 series and TM 20 series condition. Prior to induction in an LUP, AMC will perform the highest maintenance service in accordance with the appropriate TM and/or LO. AMC will verify unit maintenance records and if equipment is already in low usage or if the highest service has recently been performed, equipment will be inducted into a LBE LUP and remain on the LUP service schedule.
- b. Vehicles in low usage maintenance will have a PMCS with 5 mile road test/exercise (to include exercising all auxiliary equipment) performed every 90 days. All resulting faults will be corrected as appropriate.
- c. LBE in a LUP when temporarily loaned to another unit will receive all services and lubrication tasks in accordance with the equipment’s TM and/or LO if the prescribed low usage miles and hours have been exceeded prior to being returned to AMC.
- d. Upon re-issue or lateral transfer, equipment in LUPs do not require an additional maintenance service when low usage mileage or hours have not been exceeded. Receiving units will plan and perform an annual service within six months from date of receipt, for example, unit re-issued LBE on 1 August, next annual service is 1 February (10 percent variance is authorized as per this regulation). LBE in LUPs that exceed 18 months will have an annual service performed by AMC prior to re-issue and/or transfer to the unit.
- e. A verification inspection will be completed and all maintenance faults corrected by AMC prior to re-issue of LUP LBE.
- f. AMC LCMCs will provide instructions to sustain MSIs that will not enter into LUPs and require special maintenance while being stored.

## **10–5. Maintenance expenditure limit**

- a. LBE repairs will be in accordance with the MEL, for example, the total acceptable one-time cost to repair an end item or repairable component to a fully serviceable condition as prescribed in the appropriate TM and this regulation.
- b. Inspections and/or classifications will be in accordance with equipment maintenance and serviceability standards to determine expenditure limits. The Army Field Support Battalion will assist with providing sustainment-level assistance to determine MEL requirements.
- c. Required repairs will not be broken into separate job estimates to bypass prescribed MELs. The MEL is expressed as a percentage of the unit replacement price per paragraph 4–6 and the applicable TB 43–0002–81. The following costs will not be included in the cost to repair estimate:
  - (1) Replacement of BIIs.

- (2) 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.
- (4) Items of operating expense, 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.
- (5) The cost to replace missing tools for sets, kits, and outfits that are subject to MEL.
- (6) Cost of any pending scheduled services.

#### **10-6. Left behind equipment–aircraft sustainment**

*a.* AMC will coordinate the transfer of aircraft with the losing and/or gaining command and the aviation and missile LCMC for sustainment operations.

*b.* ACOM and/or ASCC will identify aircraft as left behind at home station 120 days prior to available load date.

*c.* LBE–aircraft will be transferred in accordance with the maintenance standards for serviceability requirements as listed in TM 1–1500–328–23 and the phase requirements listed below. Requests for exception to this standard will be submitted to the DCS, G–4 (DALO–ORS–AV).

(1) A transfer inspection will be conducted in accordance with the aircraft TM preventive maintenance daily checklist and the results provided to AMC (Aviation Field Maintenance Directorate), prior to transferring LBE–aircraft.

(2) All aircraft will be inventoried per DA Form 2408–17 by military occupation specialty qualified personnel by losing and gaining organizations. AMC will coordinate with the AMCOM for assistance with qualified personnel if necessary to assist in TIs on aircraft.

*d.* If the gaining and losing organizations cannot come to agreement on the condition of LBE–aircraft prior to induction or redistribution, they will contact the DCS, G–4 (Aviation) for adjudication and final decision.

*e.* Maintenance and historical records for all LBE–aircraft will be transferred to gaining organization electronically in the current authorized Standard Army Maintenance Information System format with required paper backup copies by the losing organization. Deviations are not authorized.

*f.* Aircraft work ordered per DA Pam 738–751 to an SOR upon designation as LBE and transferred to AMC. Units are responsible to notify the SOR that the aircraft has transferred as LBE. Prior coordination is required to facilitate AMCOM (Aviation Field Maintenance Directorate) assistance with and/or completion of maintenance required on aircraft identified as LBE. Phase, component, and times to major inspections will be per TM 1–1500–328–23. Exceptions will be forwarded to the DCS, G–4 Aviation, attention DALO–AV through the ACOM and/or ASCC G–4 aviation office.

(1) Aircraft will be maintained in flyable storage at a FMC status per AR 700–138, and the applicable TMs. Aircraft incapable of transferring in an FMC status will transfer with prior coordination.

(2) LBE–aircraft will transfer and or be inducted with all equipment required to maintain the aircraft in a FMC status as outlined in AR 700–138. Specific instructions will be provided in the transfer order.

*g.* Loans as previously outlined in the definitions of this chapter are not permitted for aircraft. Lateral transfers will be accomplished in accordance with the procedures outlined in this message.

*h.* Due to the intensively managed profile by HQDA of the low density tactical rotary wing aircraft, the following paragraphs of this chapter do not apply to LBE–aviation: #4 ERE and #5 LUPs.

*i.* Standards for readiness are addressed in paragraph 6–6 and the applicable aircraft TM MEL applies.

## **Chapter 11**

### **Unit Maintained Equipment**

#### **11-1. General**

Unit maintained equipment (UME) is equipment on the unit property book that remains at home station after the main body deploys and is accounted for and sustained by the rear detachment until the main body redeploys.

#### **11-2. Unit Maintained Equipment Standards**

*a.* UME will be maintained in accordance with the Army maintenance standard in paragraph 3–2; equipment left at home station during rotations or exercises must be left at the Army standards to ensure equipment readiness for future contingencies.

*b.* Corrosion prevention and maintenance steps remain in effect in accordance with the applicable TMs. Units are required to use techniques from TM 38–470 (Storage and Maintenance of Army Prepositioned Stock Materials) on key components of critical equipment if equipment is expected to be enrolled for more than 180 days of low usage.

*c.* For equipment in UME, units will-

- (1) Safeguard all property and equipment including all associated components and materials. Examples include; BII, COEI, Special tools and repair parts.
- (2) Perform a monthly PMCS with all (Before, During, After, Weekly, and Monthly) checks accomplished.
- (3) Exercise all equipment in low usage in accordance with paragraph 4–2*h* once every 180 days and every 90 days for equipment in a normal use schedule. All identified faults will be corrected.
- (4) Maintain the AOAP schedule.
- (5) Maintain all equipment records, MMIS data, Gun Cards (DA Form 2408–9) and Logistics Information Systems (LIS) maintained in accordance with DA PAM 750–8.
- (6) Commanders will enforce the use of the Army Battery Program paragraph 8–22 and use approved battery maintainers for equipment in low usage.
  - (a) Units will not independently contract for maintenance or supply support to augment their rear
  - (b) Detachment support capability. When contract augmentation is required, units will request contract support thru their chain of command and in accordance with prescribed policies and procedures established by their respective ACOM or ASCC. Final support coordination and approval will be between the ACOM / ASCC and Army Sustainment Command.
  - (c) When contracted augmentation is requested to support the UME, unit's will—
    1. Develop a UME concept of support and plan.
    2. Adjust requirements for contract augmentation for lower field level maintenance requirements due to low usage, administrative storage and expected use of equipment.
    3. Maximize equipment enrollment into low usage.
    4. Consider the use of Administrative Storage on equipment with minimal maintenance requirements, (for example, trailers).
    5. Ensure equipment is at the Army maintenance standards in paragraph 3–2 when the rear detachment receives the UME mission.
    6. Lateral transfer, divest or turn-in all excess equipment to reduce maintenance requirements.
    7. Provide logistics and maintenance leadership for the UME mission.
    8. Provide operators for Logistics Information Systems (LIS) to support the UME mission.
    9. Provide quality assurance program for oversight of the program with appropriate Contracting Officer Representative and/or Quality Assurance Representative for the duration of the contract to ensure contract deliverables achieve the requirements stated above.
    10. Provide maintenance facility, repair parts and all specialized tools and equipment to support of the UME mission.

## **Appendix A**

### **References**

#### **Section I**

##### **Required Publications**

###### **AR 5–9**

Installation Agreements (Cited in para 2–18*nn*(14).)

###### **AR 5–13**

Total Army Munitions Requirements and Prioritization Policy (Cited in para 3–4*f*.)

###### **AR 70–1**

Army Acquisition Policy (Cited in para 2–1*d*.)

###### **AR 71–32**

Force Development and Documentation (Cited in para 2–8*b*.)

###### **AR 73–1**

Test and Evaluation Policy (Cited in para 7–18*b*.)

###### **AR 220–1**

Army Unit Status Reporting and Force Registration–Consolidated Policies (Cited in para 3–3*b*(2).)

###### **AR 700–138**

Army Logistics Readiness and Sustainability (Cited in para 2–5*o*(2).)

###### **AR 700–139**

Army Warranty Program (Cited in para 2–11*v*.)

###### **AR 710–1**

Centralized Inventory Management of the Army Supply System (Cited in para 4–8*a*.)

###### **AR 715–9**

Operational Contract Support Planning and Management (Cited in para 4–20*e*.)

###### **ARNG Design Guide 415–2**

Logistics Facilities (Cited in para 3–15*b*.) (Available at [http://www.ngbpdc.ngb.army.mil/pubs/arng\\_design\\_guides/\\_html](http://www.ngbpdc.ngb.army.mil/pubs/arng_design_guides/_html).)

###### **ARNG Design Guide 415–3**

Aviation Facilities (Cited in para 3–15*b*.) (Available at [http://www.ngbpdc.ngb.army.mil/pubs/arng\\_design\\_guides/\\_html](http://www.ngbpdc.ngb.army.mil/pubs/arng_design_guides/_html).)

###### **ATP 4–33**

Maintenance Operations (Cited in para 4–13.)

###### **DA Pam 738–751**

Functional User’s Manual for the Army Maintenance Management System–Aviation (Cited in para 2–5*p*(6).)

###### **DA Pam 750–8**

The Army Maintenance Management System (TAMMS) User’s Manual (Cited in para 2–14*l*.)

###### **DOD 4151.18–H**

Depot Maintenance Capacity and Utilization Measurement Handbook (Cited in para 5–13*a*(2).)

###### **DODD 4151.18**

Maintenance of Military Materiel (Cited in para 5–7*a*.)

###### **DODI 8523.01**

Communications Security (COMSEC) (Cited in para 6–26*b*.)

###### **DODM 5220.22, Volume 2**

National Industrial Security Program: Industrial Security Procedures for Government Activities (Cited in para 6–23*d*.)

**NG Pam 750–2**

Army National Guard Aviation Logistical Program (Cited in para 3–10i(3)(g).) (Available at <http://www.ngbpdc.ngb.army.mil>.)

**NGR 750–52**

Army National Guard Command Maintenance Discipline Program (Cited in para 2–5l(10).) (Available at <http://www.ngbpdc.ngb.army.mil>.)

**TB 1–1500–341–01**

Aircraft Components Requiring Maintenance Management and Historical Data Reports (Cited in para 6–13d(2).)

**TB 43–180**

Technical Bulletin Calibration and Repair Requirements for the Maintenance of Army Materiel (Cited in para 6–4g.)

**TB 43–0211**

Army Oil Analysis Program (AOAP) Guide for Leaders and Users (Cited in para 2–18g(19).)

**TB 380–41**

Security: Procedures for Safeguarding, Accounting, and Supply Control of COMSEC Material (Cited in para 6–23d.)

**Section II****Related Publications**

A related publication is a source of additional information. The user does not have to read a related reference to understand this publication. DOD publications are available at <http://www.esd.whs.mil/dd/>. Military handbooks, military performance specifications, and military standards are available at <http://quicksearch.dla.mil/qssearch.aspx>. USC material is available at <https://www.govinfo.gov/>.

**ADS–79E–HDBK**

Condition Based Maintenance System for U.S. Army Aircraft (Available at <https://www.amrdec.army.mil/amrdec/rdmr-se/tdmd/documents/ads-79e-8feb2016.pdf>.)

**AR 5–1**

Management of Army Business Operations

**AR 5–10**

Stationing

**AR 5–20**

Competitive Sourcing Program

**AR 10–87**

Army Commands, Army Service Component Commands, Direct Reporting Units

**AR 11–2**

Managers' Internal Control Program

**AR 12–1**

Security Assistance, Training, and Export Policy

**AR 15–1**

Department of the Army Federal Advisory Committee Management Program

**AR 15–6**

Procedures for Administrative Investigations and Boards of Officers

**AR 25–1**

Information Management Army Information Technology

**AR 25–2**

Information Assurance

**AR 25–12**

Communications Security Equipment Maintenance and Maintenance Training

**AR 25–30**

Army Publishing Program

**AR 25–400–2**

The Army Records Information Management System (ARIMS)

**AR 40–60**

Army Medical Materiel Acquisition Policy

**AR 40–61**

Medical Logistics Policies

**AR 56–3**

Management of Army Rail Equipment

**AR 56–9**

Watercraft

**AR 58–1**

Management, Acquisition, and Use of Motor Vehicles

**AR 70–62**

Airworthiness of Aircraft Systems

**AR 95–1**

Flight Regulations

**AR 190–11**

Physical Security of Arms, Ammunition, and Explosives

**AR 190–13**

The Army Physical Security Program

**AR 200–1**

Environmental Protection and Enhancement

**AR 210–14**

Installation Status Report Program

**AR 215–1**

Military Morale, Welfare, and Recreation Programs and Nonappropriated Fund Instrumentalities

**AR 335–15**

Management Information Control System

**AR 350–1**

Army Training and Leader Development

**AR 350–38**

Policies and Management for Training Aids, Devices, Simulators, and Simulations

**AR 380–40**

Safeguarding and Controlling Communications Security Material

**AR 380–67**

Personnel Security Program

**AR 385–10**

The Army Safety Program

**AR 420–1**

Army Facilities Management

**AR 525–29**

Army Force Generation

**AR 570–4**

Manpower Management

**AR 600–55**

The Army Driver and Operator Standardization Program (Selection, Training, Testing, and Licensing)

**AR 700–4**

Logistics Assistance

**AR 700–18**

Provisioning of U.S. Army Equipment

**AR 700–19**

U.S. Army Munitions Reporting System

**AR 700–68**

Storage and Handling of Liquefied and Gaseous Compressed Gasses and Their Full and Empty Cylinders

**AR 700–82**

Joint Regulation Governing the Use and Application of Uniform Source, Maintenance, and Recoverability Codes

**AR 700–84**

Issue and Sale of Personal Clothing

**AR 700–90**

Army Industrial Base Process

**AR 700–127**

Integrated Product Support

**AR 700–132**

Joint Oil Analysis Program

**AR 700–142**

Type Classification, Materiel Release, Fielding, and Transfer

**AR 702–7**

Product Quality Deficiency Report Program

**AR 702–7–1**

Reporting of Product Quality Deficiencies Within the U.S. Army

**AR 710–2**

Supply Policy Below the National Level

**AR 710–3**

Inventory Management Asset and Transaction Reporting System

**AR 725–50**

Requisition, Receipt, and Issue System

**AR 735–5**

Property Accountability Policies

**AR 750–6**

Army Equipment Safety and Maintenance Notification System

**AR 750–10**

Army Modification Program

**AR 750–43**

Army Test, Measurement, and Diagnostic Equipment

**AR 750–59**

Corrosion Prevention and Control for Army Materiel

**ATP 4–31**

Recovery and Battle Damage Assessment and Repair

**CTA 50–900**

Clothing and Individual Equipment (Available at <https://fmsweb.army.mil/unprotected/splash/welcome.aspx>.)

**CTA 50–909**

Field and Garrison Furnishings and Equipment (Available at <https://fmsweb.army.mil/unprotected/splash/welcome.aspx>.)

**DA Pam 25–91**

Visual Information Procedures

**DA Pam 25–403**

Guide to Recordkeeping in the Army

**DA Pam 70–3**

Army Acquisition Procedures

**DA Pam 385–90**

Army Aviation Accident Prevention Program

**DA Pam 700–60**

Department of the Army Sets, Kits, Outfits, and Tools (SKOT)

**DA Pam 700–127**

Integrated Product Support Procedures

**DA Pam 700–142**

Instructions for Type Classification, Materiel Release, Fielding, and Transfer

**DA Pam 710–2–1**

Using Unit Supply System (Manual Procedures)

**DA Pam 710–2–2**

Supply Support Activity Supply System: Manual Procedures

**DA Pam 742–1**

Ammunition Surveillance Procedures

**DA Pam 750–1**

Commanders' Maintenance Handbook

**DA Pam 750–3**

Soldiers' Guide for Field Maintenance Operations

**DFARS**

Defense Federal Acquisition Regulation Supplement (Available at <https://www.dcaa.mil/home/dfars>.)

**DFAS–IN Regulation 37–1**

Finance and Accounting Policy Implementation (Available at <https://www.asafm.army.mil/dfas.aspx?doc=37–1>.)

**DLM 4000.25–2**

Military Standard Transaction Reporting and Accountability Procedures (MILSTRAP) (Available at <http://www.dla.mil/hq/informationoperations/dlms/>.)

**DODI 1225.08**

Reserve Component (RC) Facilities Programs and Unit Stationing

**DODM 4140.01**

DOD Supply Chain Materiel Management Procedures

**DODM 4160.21**

Defense Materiel Disposition

**DODM 4160.28, Volume 1**

Defense Demilitarization: Program Administration

**DTR 4500.9–R**

Defense Transportation Regulation (Available at <https://www.ustranscom.mil/dtr/index.cfm>.)

**Economic Analysis Manual**

(Available at <https://www.asafm.army.mil/documents/offices/ce/eam.pdf>.)



**FAR**

Federal Acquisition Regulation (Available at <https://www.acquisition.gov/browse/index/far>.)

**MIL–HDBK–1473A**

Color and Marking of Army Materiel

**MIL–PRF–5041K**

Tires, Ribbed Tread, Pneumatic, Aircraft

**MIL–PRF–7726K**

Retread Tires, Ribbed Tread, Pneumatic Aircraft

**MIL–PRF–32216A**

Evaluation of Commercial Off-the-Shelf (COTS) Manuals and Preparation of Supplemental Data

**MIL–STD–882E**

System Safety

**NAS 410**

NAS Certification and Qualification of Nondestructive Test Personnel (Available for purchase from the Aerospace Industries Association, 1000 Wilson Boulevard, Suite 1700, Arlington, VA 22209–3928; <https://www.aia-aerospace.org/>.)

**NFPA 99**

Health Care Facilities Code, 2012 Edition (Available at <http://www.nfpa.org/>.)

**NFPA 101®**

Life Safety Code® (Available at <http://www.nfpa.org/catalog/>.)

**NG Pam 350–1**

Administrative Instructions (Available at <http://www.ngbpdc.ngb.army.mil/>.)

**NG Pam 415–12**

Army National Guard Facilities Allowances (Available at <http://www.ngbpdc.ngb.army.mil/>.)

**NG Pam 570–1**

Fulltime Support Manning for the Army National Guard (Available at <http://www.ngbpdc.ngb.army.mil/>.)

**NG Supplement 1 to AR 95–1**

ARNG Aviation: Flight Regulations

**NGR 10–1**

Organization and Federal Recognition of Army National Guard Units (Available at <http://www.ngbpdc.ngb.army.mil/>.)

**NGR 415–10**

Army National Guard Facilities Construction (Available at <http://www.ngbpdc.ngb.army.mil/>.)

**SAE J2014**

Pneumatic Tire/Wheel/Runflat Assembly Qualifications for Military Tactical Wheeled Vehicles (Available at [https://www.sae.org/standards/content/j2014\\_201303/](https://www.sae.org/standards/content/j2014_201303/).)

**SAE JA1011**

Evaluation Criteria for Reliability-Centered Maintenance (RCM) Processes (Available at [https://www.sae.org/standards/content/ja1011\\_199908/](https://www.sae.org/standards/content/ja1011_199908/).)

**SAE JA1012**

A Guide to the Reliability-Centered Maintenance (RCM) Standard (Available at [https://www.sae.org/standards/content/ja1012\\_200201/](https://www.sae.org/standards/content/ja1012_200201/).)

**SB 700–20**

Army Adopted/Other Items Selected for Authorization/List of Reportable Items

**SOLAS**

International Convention for the Safety of Life at Sea, 1974 (Available at [http://www.imo.org/en/about/conventions/listofconventions/pages/international-convention-for-the-safety-of-life-at-sea-\(SOLAS\),-1974.aspx](http://www.imo.org/en/about/conventions/listofconventions/pages/international-convention-for-the-safety-of-life-at-sea-(SOLAS),-1974.aspx).)

**TB 9–1300–385**

Munitions Restricted or Suspended

**TB 9–2610–200–34/1**

Pre–Award Inspector’s Guide for Retreading and Repairing of Pneumatic Tires

**TB 38–750–2**

Maintenance Management Procedures for Medical Equipment

**TB 43–0002 series**

Maintenance Expenditure Limits

**TB 43–0002–3**

Maintenance Expenditure Limits for army Aircraft and UAS

**TB 43–0002–27**

Maintenance Expenditure Limits for FSC Groups 72, 83, and 43

**TB 43–0002–81**

Maintenance Expenditure Limits for FSC Group 23, FSC Classes 2310, 2320, and 2330

**TB 43–0144**

Painting of Watercraft

**TB 43–0242**

WD CARC Spot Painting

**TB 55–1900–201–45/1**

Guide to Army Watercraft Survey Inspections, Repair Procedures, and Repair Specifications Preparation

**TB 55–1900–205–24**

Watercraft Information and Reporting System (WIRS) Data Collection for Configuration Control

**TB 750 series**

Maintenance Expenditure Limits

**TB 750–25**

Maintenance of Supplies and Equipment: Army Test, Measurement, and Diagnostic Equipment (TMDE) Calibration and Repair Support (C&RS) Program

**TB MED 521**

Occupational and Environmental Health: Management and Control of Diagnostic, Therapeutic, and Medical Research X-Ray Systems and Facilities

**TB MED 750–1**

Operating Guide for Medical Equipment Maintenance

**TB MED 750–2**

Operating Guide for TOE Medical Equipment Maintenance

**TechAmerica Government Electronics & Information Technology Association–Standard–0007**

Logistics Product Data (Available for purchase at <http://www.techstreet.com/products/1723466>.)

**TM 1–1500–204–23–1**

Aviation Unit Maintenance (AVUM) and Aviation Intermediate Maintenance (AVIM) Manual for General Aircraft Maintenance (General Maintenance and Practices) Volume 1

**TM 1–1500–328–23**

Aeronautical Equipment Maintenance Management Procedures

**TM 1–1500–345–23**

Painting and Marking of Army Aircraft

**TM 9–2610–200–14**

Operator’s, Unit, Direct Support, and General Support Maintenance Manual for Care, Maintenance, Repair, and Inspection of Pneumatic Tires and Inner Tubes

**TM 10 series**

Operator-level technical manuals

**TM 20 series**

Organizational-level technical manuals

**TM 30 series**

Direct support-level technical manuals

**TM 38–301–1**

Joint Oil Analysis Program Manual, Volume 1: Introduction, Theory, Benefits, Customer Sampling Procedures, Programs, and Reports

**TM 55–500**

Watercraft Equipment Characteristics and Data

**21 CFR**

Food and Drugs (Available at <https://www.ecfr.gov/cgi-bin/ecfr?page=browse>.)

**29 CFR**

Labor (Available at <https://www.ecfr.gov/cgi-bin/ecfr?page=browse>.)

**46 CFR 41–69**

Shipping (Load Lines; Marine Engineering; Documentation and Measurement of Vessels) (Available at <https://www.ecfr.gov/cgi-bin/ecfr?page=browse>.)

**10 USC 2460**

Definition of depot-level maintenance and repair

**10 USC 2464**

Core logistics capabilities

**10 USC 2466**

Limitations on the performance of depot-level maintenance of materiel

**10 USC 2469**

Contracts to perform workloads previously performed by depot-level activities of the Department of Defense: requirement of competition

**10 USC 2474**

Centers of Industrial and Technical Excellence: designation; public-private partnerships

**Section III****Prescribed Forms**

Unless otherwise indicated, DA forms are available on the Army Publishing Directorate website (<https://armypubs.army.mil/>).

**DA Form 5480**

Maintenance Request and Assignment Register (Prescribed in para 8–15*h*(24)(*a*).)

**DA Form 7567**

Special Repair Authority (SRA) Approval/Disapproval Sheet (Prescribed in para G–2.)

**DA Form 7723**

Maintenance Expenditure Limit (MEL) Waiver (Prescribed in paras 4–6*e*(1)(*d*), 4–6*e*(1)(*e*), fig 4–1, and table 4–1.)

**Section IV****Referenced Forms**

Unless otherwise indicated, DA forms are available on the Army Publishing Directorate website (<https://armypubs.army.mil/>) and DD forms are available on the Office of the Secretary of Defense website <https://www.esd.whs.mil/directives/forms/>).

**DA Form 11–2**

Internal Control Evaluation Certification

**DA Form 1352**

Army Aircraft Inventory, Status, and Flying Time

**DA Form 2028**

Recommended Changes to Publications and Blank Forms

**DA Form 2402**

Maintenance Tag (Available through normal forms supply channels.)

**DA Form 2404**

Equipment Inspection and Maintenance Worksheet

**DA Form 2405**

Maintenance Request Register

**DA Form 2406**

Materiel Condition Status Report

**DA Form 2407**

Maintenance Request (Available through normal forms supply channels.)

**DA Form 2407–1**

Maintenance Request Continuation Sheet (Available through normal forms supply channels.)

**DA Form 2408–9**

Equipment Control Record

**DA Form 2408–13**

Aircraft Status Information Record

**DA Form 2408–13–3**

Aircraft Technical Inspection Worksheet

**DA Form 2408–17**

Aircraft Inventory Record

**DA Form 2408–18**

Equipment Inspection List

**DA Form 2410**

Component Removal/Repair/Install/Gain/Loss Record

**DA Form 2415**

Ammunition Condition Report

**DA Form 3254–R**

Oil Analysis Recommendation and Feedback (LRA)

**DA Form 3266–1**

Army Missile Materiel Readiness Report

**DA Form 3590**

Request for Disposition or Waiver

**DA Form 4610–R–E**

Equipment Changes in MTOE/TDA (EGA)

**DA Form 5988–E**

Equipment Maintenance and Inspection Worksheet (EGA) (This form is generated electronically in SAMS–Installation/IE).

**DA Form 5990–E**

Maintenance Request (EGA) (This form is generated electronically in SAMS–Installation/IE).

**DD Form 200**

Financial Liability Investigation of Property Loss

**DD Form 448**

Military Interdepartmental Purchase Request

**DD Form 1577**

Unserviceable (Condemned) Tag—Materiel (Available through normal forms supply channels.)

**DD Form 1577-2**

Unserviceable (Reparable) Tag—Materiel (Available through normal forms supply channels.)

**DD Form 2625**

Controlled Cryptographic Item (CCI) Briefing

**SF 368**

Product Quality Deficiency Report (Available at <https://www.gsa.gov/reference/forms>.)

## **Appendix B**

### **Maintenance Metrics and Performance Measures for Army Field Organizations**

#### **B-1. Army-level metrics**

Army-level maintenance metrics for field commands—TLRT-M and TAT are described in table 3-3.

*a.* Total logistics response time-maintenance.

(1) AMC LOGSA will provide TLRT-M reports to each Army organization to which maintenance support is provided under the provisions of this regulation. TLRT-M reports will also be made available to parent commands of these organizations. Figure 3-1 is a sample TLRT-M report.

(2) TLRT-M is a metric that supports the fundamental purpose of the TAMMS procedures in DA Pam 750-8 and DA Pam 738-751. It supports readiness requirements of AR 700-138. It begins when an item becomes NMC and includes the following:

(*a*) The time that the customer 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 customer organization requires to pick up the repaired item and/or, if it is AR 700-138 reportable, the time to return the item to “A” status, as outlined in DA Pam 750-8 and DA Pam 738-751.

*b.* Turnaround time.

(1) AMC LOGSA will provide TAT reports monthly to each maintenance provider organization and will make them available to their parent commands. Sample maintenance provider TAT reports for MTOE, TDA, and contract providers are shown in figures 3-2, 3-3, and 3-4.

(2) TAT is the period of time that elapses between the time that a maintenance organization accepts a field and/or organization work order, followed by accomplishment of the work, and the time at closeout of the work order.

(3) TAT is the foundation metric for the maintenance provider. The objective of all Army maintenance providers is to achieve TAT on all work orders within the time frame required by the Warfighter and/or customer, as indicated by the MPD. More detailed metrics for assessing and controlling internal operations of maintenance providers are found in paragraph B-3.

#### **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**

In addition to 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 LOGSA will establish and maintain TAT scorecards for each Army command having a maintenance support mission maintenance provider organization.

*a.* The following are TAT scorecard data elements for commands having maintenance provider organizations:

(1) Number of maintenance organizations.

(2) Number of maintenance organizations achieving GREEN status in LIDB for a reporting period.

(3) Number of maintenance organizations achieving AMBER status in LIDB for a reporting period.

(4) Number of maintenance organizations achieving RED status in LIDB for a reporting period.

*b.* The following are ACOM, ASCC, and DRU, MSC, and intermediate command scorecard ratings:

(1) GREEN status will be achieved when at least 70 percent of the total assigned maintenance provider organizations achieve a green TAT rating for a given rating period.

(2) AMBER status will be achieved when the number of assigned maintenance provider organizations are rated with green TAT status is equal to or greater than 50 percent but less than 70 percent for a reporting period.

(3) RED status will be achieved when the number of assigned maintenance organizations with green TAT status is less than 50 percent for a reporting period.

#### **B-3. Maintenance provider (modification table of organization and equipment/table of distribution and allowances/contractor) organization management metrics**

*a.* General.

(1) Armywide management of the mission performance by Army maintenance provider organizations, organic and contractor, is founded on the capture and analysis, by AMC LOGSA, of historical data records from Army maintenance Standard Army Management Information System and/or other Automated Information Systems. The key data record that must be captured is the closed work order, as defined in DA Pam 750-8 and DA Pam 738-751.

(2) AMC LOGSA will maintain mission performance scorecards on TAT for each maintenance provider, by UIC, using the closed work order, as noted in paragraph 3–3a.

(3) UICs for contract maintenance providers will be assigned by installation commanders in accordance with AR 220–1, enabling AMC LOGSA to maintain historical records (see DA Pam 750–8 and DA Pam 738–751), as required in paragraph 3–4 of this regulation.

(4) 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 and/or support to organization operations. Key metrics for managing internal operations and identifying external problem areas, such as manpower availability and repair parts supply are explained below.

(5) Commanders of large organizations that control maintenance provider organizations, commanders of MTOE units, IMMAs, 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. Man-hour utilization rates. There are two utilization rates that are used to measure the effective use of maintenance personnel:

(1) The assigned man-hour readiness rate measures the percent of direct labor man-hours assigned to the unit/organization that is recorded as total man-hours on all DA Form 2407 in a given period of time.

(2) The available man-hour readiness rate measures the percent of all of the direct labor man-hours actually made available to the shop for work for a given period of time.

(a) Direct labor / Productive Labor is defined as time expended in performance of maintenance tasks required by the technical publication.

(b) Indirect labor is work that contributes to the completion of work orders but does not include the performance of maintenance tasks required by technical publications.

(c) For military manpower, the standard utilization rate is 50 percent; the goal is 75 percent and for civilian manpower, the standard utilization rate is 85 percent; the goal is 90 percent.

(3) Computations are as follows:

(a) Available man-power utilization calculation:  $(\text{Direct Labor Manpower} \times \text{Days Available} \times 8)$ .

(b) Assigned man-power utilization rate calculation:  $(\text{Direct Labor} + \text{Direct Labor Overtime}) / ((\text{Direct Labor Manpower} \times \text{Days Available} \times 8) - \text{Non Productive Time}) \times 100$ .

c. Workload. Workload is the sum of the estimated man-hours required for work awaiting induction and to complete work in progress. The maintenance workload must be analyzed in materiel commodity areas (for example, armament, aviation, automotive, and communications-electronic) and is not normally managed in higher workload aggregations. This management technique parallels the typical organization of maintenance operations into platoons, shops, sections, and similar sub-elements. Higher aggregations of workload statistics for different commodities do not have management significance, because maintenance skills, tools, repair parts and other maintenance resources are often not transferable across commodity lines to reduce high workloads. Use of established time standards for tasks performed repeatedly over a period of time will result in more accurate man-hour estimates. The task time standards should be reviewed and adjusted at least semiannually to assist commanders in detecting and responding to changes in a maintenance organization's workload.

d. Direct labor availability. Direct labor availability is the number of man-hours available per day to perform maintenance tasks, such as the productive capacity of the organization. If a review of projected personnel gains and losses 90 days to 180 days out indicates an adverse situation is developing, the following alternatives will be addressed:

(1) Expediting the personnel replacement process.

(2) Borrowing personnel from other organizations.

(3) Using local contract or host nation support.

(4) Shifting a portion of the workload to another organization that has excess productive capacity.

e. Efficiency rate.

(1) The efficiency rate is a measure of the skill proficiency within the maintenance organization. It is dependent upon establishment and maintenance of a set of task time standards that are representative of maintenance performance under the local situation. Inspectors will use the task time standards to estimate the man-hours required to complete each work order.

(2) The efficiency rate is the man-hours estimated for a given work order (or the total of estimated man-hours for all work orders completed during a given period of time) divided by the man-hours that were actually expended to accomplish the work orders.

(3) The recommended management objective for the efficiency rate is 80 to 100 percent.

(4) The efficiency rate will be calculated for the unit by including all of the work orders completed during the reporting period. It will be calculated for specific individuals as required to measure skill proficiency and thus identify training requirements.

(5) The trend of the efficiency rate should be plotted for the previous 12 months. When a declining trend is observed, the following should be considered:

(a) Reviewing the maintenance task standards for validity.

(b) Verifying the effectiveness of supervision within the shops.

(c) Reviewing the supported density list to identify new equipment for which MOS training may be required.

(d) Identifying individuals who require additional training in certain skills or on certain equipment.

(e) Physical layout.

(f) Tool and TMDE availability.

(g) Amount of lag time spent waiting for tools and parts.

f. Backlog.

(1) The backlog will be computed for each commodity maintenance organization or shop (see para B-3).

(2) Backlog is the overall measure of the direct labor resources required to complete the workload noted in paragraph B-3c. The backlog will be expressed in 8-hour workdays and will be computed as follows: Backlog (in work days) = workload and/or average daily direct labor man-hour capacity per day.

(3) The standard for backlog will be established at the local level based on the equipment supported and historical experience. The previous 12 months of experience will be analyzed for trends. If an unfavorable trend emerges, the components of the backlog formula will be analyzed to identify the probable cause.

#### **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 customers. TAT is computed by commodity and initial rejects are excluded. It covers the period of time from acceptance of a work order to closeout but does not include time awaiting customer 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 work orders are arranged in ascending order based upon the number of calendar days.

(3) The 25 percent of the total number of work orders with the highest number of calendar days is removed from consideration.

c. The average of calendar days for the remaining work orders is calculated.

(1) The 25 percent of work orders with long TAT times in 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.

(2) Although there may be variations among work orders, TAT can comprised three major components—maintenance delay time, supply delay time, and 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.

d. Commanders and IMMAs will use AMC LOGSA-generated TAT reports and locally developed TAT reports to assist them in meeting mission performance standards.

#### **B-5. 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 work orders completed during the period as used to calculate TAT. It is determined by calculating the mean number of calendar days that work orders 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. 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:

d. Availability and utilization of direct labor personnel.



- e. Inspection procedures.
- f. The ratio of direct labor personnel to work stations by shop section; balance labor among workstations.
- g. The adequacy of the quantity of tools and TMDE.
- h. The adequacy of lift and materiel handling equipment.

#### **B-6. 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 work orders completed during the period. It is determined by calculating the average number of calendar days that work orders 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 local commander in terms of its percentage of total TAT should establish a standard for supply delay time.
- d. 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:
    - (a) Gross availability or fill rate.
    - (b) Average customer wait time.
    - (c) Requisition processing time.
    - (d) Receipt processing time.

#### **B-7. 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 work orders completed during the period. It will be determined by calculating the average number of calendar days that the work orders were carried in status codes indicating "in shop."
- c. Installation-level commanders will establish standards for total RCT, by priority of the work order. When an increasing trend is observed, the factors affecting RCT will be reviewed and analyzed, as indicated by supervisors and leaders.

#### **B-8. 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. Backup support utilization is a percentage calculated by dividing the number of man-hours estimated for all work orders accepted into the maintenance activity during the period into the number of man-hours estimated for work orders evacuated to backup support during the same period.
- c. The installation commander will establish the standard for backup support utilization. The installation 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-9. Operational readiness float utilization rate**

The ORF utilization rate for an end item will be computed by dividing the number of ORF transactions (completed loss and gain ORF transfer) completed by the total number of ORF on hand.

#### **B-10. Operational readiness float transaction time**

- a. ORF transaction time measures a factor that impacts upon RCT and the efficiency of the ORF decision process. ORF transaction time is determined by calculating, for the previous 12 months, the average of the number of calendar days between acceptance of the work order into the support maintenance activity and customer receipt of the ORF asset.

*b.* The responsible organization commander, through the DCS, G-3/5/7 or S-3 staff, will establish the standard for ORF transaction time.

*c.* When actual transaction times exceed the standard, maintenance managers will consider the following in bringing ORF transaction time back into compliance:

(1) The float decision process to ensure that the decision to float is made as early as possible (see para 3-7).

(2) The availability of ORF assets at the time an ORF decision is indicated.

(3) The MPD placed on work orders to repair float assets to ensure it matches the MPD of the work order of the items submitted for repair and later for ORF exchange (see para 3-7).

#### **B-11. 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 IMMAs will maintain rejection rate records for all commodity shops, to include—

(1) In-shop and final inspection rejections.

(2) Customer rejections and returns for correction of the same problem within 30 days after closeout of the work order.

Customer rejections must be separately validated as actual performance faults.

*c.* The Army maximum rate standard for rejections of work on mechanical equipment is 3 percent. The Army standard for rework of electronic items is 2 percent. Local commanders and IMMAs may establish lower standards, if talent and capabilities permit.

*d.* Factors that could affect quality of performance of maintenance and/or repair procedures and validation inspections include the following:

(1) Training and competence of maintenance, repair, and/or quality control personnel.

(2) Thoroughness and rigor of in-process and final operations quality control checks and inspections.

(3) Quality assurance 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.

## Appendix C

### Determination of Tactical Maintenance Augmentation Requirements for Military Mechanics During Peacetime Garrison Operations

#### C-1. Introduction

This appendix provides instructions and a methodology on how to determine the tactical maintenance augmentation requirements for military mechanics during peacetime garrison operations. Units will use the below methodology to compute their requirements that will be used as the basis of all budget submissions.

#### C-2. Required documents, sources, and data

The following listed documents and sources will be used in computing tactical maintenance augmentation requirements for military mechanics during peacetime garrison operations:

- a. The Army manpower requirements criteria maintenance database (AMMDB), which is the only authorized source for maintenance burden data. It can be found at USAFMSA (<https://webtaads.belvoir.army.mil/usafmsa>).

*Note.* The AMMDB provides maintenance man-hours by LIN and by MOS.

*Note.* Annual direct productive man-hours, coded “DPUL” on the website, will be used in the determination of tactical maintenance augmentation requirements for military mechanics during peacetime garrison operations. Do not use total annual maintenance man-hours, coded “AMUL,” on the USAFMSA website. The “AMUL” number includes indirect labor.

- b. Authorization documents and databases, which will be used to show the number of equipment items authorized and/or on hand in a unit and/or organization. These items are identified by LIN category. Examples of the documents include Army total asset visibility reports, requisition-validation reports, and Standard Property Book System Redesign extracts.

- c. AR 570-4.

*Note.* AR 570-4 outlines Army policy for computing annual man-hours available (CONUS and OCONUS) in peacetime for Soldier maintenance personnel. These numbers are called the peacetime mission availability factors.

- d. An official document that reflects the man-hour costs of a contract man-year for the MOSs to be augmented in the location of the unit of concern.

*Note.* The Government contracting office that services the ACOM, ASCC, and DRU or the location under consideration will provide this document.

#### C-3. Procedures

- a. The authorized equipment quantities are determined by LIN by using the authorization document that is applicable to the unit and/or organization.

- b. The USAFMSA website is accessed.

- c. The applicable LINs in the AMMDB are found. Requirements for all MOSs needed to maintain those LINs are computed.

- d. Using the AMMDB, the total direct maintenance man-hours required for all applicable MOSs for all equipment LINs within the organization authorization document are determined. An example follows:

(1) The number of man-hours required to augment 63B mechanics in a unit motor pool to support the high-mobility multipurpose wheeled vehicle (HMMWV) are determined.

(2) The AMMDB reveals that MOS 63B maintains the HMMWV, LIN T61494. It also reveals that 167.9 direct labor man-hours (column “DPUL”) are required annually to accomplish all scheduled and unscheduled maintenance tasks on each HMMWV.

(3) Thirty HMMWVs are in the unit and/or organization (167.9 is multiplied by 30 for an annual direct labor requirement of 5,037 man-hours).

(4) From the authorization document that shows the number of maintenance personnel authorized, authorizations for two Soldiers of MOS 63B are found. The number of authorized mechanics, two each, is multiplied by the appropriate peacetime mission availability factors noted in table 4-1 of AR 570-4. In this example, it is the assigned category of “Mechanical Maintenance” in CONUS and/or FORSCOM. Therefore, the peacetime mission availability factor is 116 man-hours per Soldier, per month, or 1,392 man-hours per Soldier, per year. Therefore, the total number of man-hours expected to be available annually, in peacetime, from the two authorized positions is 2,784 hours.

(5) Peacetime available man-hours (2,784) are subtracted from the required man-hours of 5,037 (see para C-3d (3)). This will reveal that an additional 2,253 man-hours will be needed to complete the direct labor mission on the 30 HMMWVs.

(6) To translate the shortfall into contractual terms, the shortfall (2,253) is divided by the contract man-year work hours obtained from the document in paragraph C-2d. A contract man-year in FORSCOM for the year 2000 will be used in this example, 1,927 man-hours. The mission short fall, in man-hours, is divided by the contract man-year, in man-hours, applicable to the location. Using the year 2000 FORSCOM figure, the result is a shortfall of 1.2 man-years (that is, 2,253 divided by 1,927).

e. Steps (1) through (7) are repeated for the complete equipment density list and all the MOSs in the command.

## Appendix D

### Army Maintenance Awards

The DCS, G-4 will establish instructions and guidance for the preparation of the AAME (field-level) and Army depot-level competitions nomination packets. Units and depots will use the format shown in figure D-1 to ensure all elements of the competition's requirements are addressed. ACOMs, ASCCs, and DRUs will work with and mentor their units to improve the competitiveness of their units. The DCS, G-4 will publish the full instructions and guidance for nomination packets on the USAOS website that is available at <http://www.goordnance.army.mil/AAME/aame.html>.

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#### *Army Maintenance Award Nomination Packet Format*

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*\*Note: List page numbers under Tabs*

Figure D-1. Army Maintenance Award

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## Appendix E

### Command and Depot Codes

#### E-1. Introduction

Tables E-1 through E-11 and codes in this appendix are used to track sustainment workload. These codes are used as the standard when reporting maintenance workload, status and functions.

#### E-2. Exception authority

No additional Army codes are assigned unless authorized by the DCS, G-4 (Maintenance Directorate).

#### E-3. Other depot codes

A miscellaneous code used is 8L, DSAFE-Korea. (This office manages Far East contracted maintenance.)

**Table E-1**  
**Command/Life Cycle Management Commands codes**

Code	Command/LCMC
BY	AFSC/U.S. Army Field Support Command
AV	AMCOM/U.S. Army Aviation and Missile Command-Missile
AX	AMCOM/U.S. Army Aviation and Missile Command-Missile
D1	AMCOM/U.S. Army Aviation and Missile Command-Missile
EJ	AMCOM/U.S. Army Aviation and Missile Command-Aviation
EH	TACOM/U.S. Army Tank, Automotive and Armament Command-Warren, MI
M1	TACOM/U.S. Army Tank, Automotive and Armament Command-Army Chemical Acquisition Logistics Activity
S6	TACOM/U.S. Army Tank Automotive Command—Soldier Systems
1G	CECOM/U.S. Army Communications-Electronics Command

**Table E-2**  
**Army depot codes**

Code	Depot
H3	Anniston Army Depot, Anniston, AL
J3	Corpus Christi Army Depot, Corpus Christi, TX
HP	Letterkenny Army Depot, Chambersburg, PA
HQ	Blue Grass Army Depot, Richmond, KY
I8	Red River Army Depot, Texarkana, TX
IP	Tobyhanna Army Depot, Tobyhanna, PA
M5	Rock Island Arsenal, Rock Island, IL
M7	Watervliet Arsenal, Watervliet, NY
JD	Sierra Army Depot, Herlong, CA
FJ	Pine Bluff Arsenal, Pine Bluff, AR
BY	Crane Army Ammunition Activity, Crane, IN
IR	Toole Army Depot, Ogden UT
DH	McAlester Army Ammo Plant, McAlester, OK
DJ	Hawthorne Army Depot Hawthorne, NV

**Table E-3**  
**Navy depot codes**

Code	Depot
DA	Naval Air Rework, N. Island, CA
DK	Naval Air Rework, Pensacola, FL
DL	Naval Air Rework, Cherry Point, NC
S7	Norfolk Shipyard, Norfolk, VA
T4	Naval Air Rework, Alameda, CA
T8	Naval Weapons Center, Crane, IN
6H	Naval Shipyard, Long Beach, CA

**Table E-4**  
**Air Force depot codes**

Code	Depot
UJ	Ogden Air LOG, UT
UK	Oklahoma Air LOG, OK
UN	Sacramento Air LOG, CA
UO	San Antonio Air LOG, TX
UT	Warner Robbins Air LOG, GA
VY	Newark AFB, OH
WK	Kirtland AFB, NM
XQ	Air Defense Center, El Paso, TX

**Table E-5**  
**Marine Corps depot codes**

Code	Depot
6N	USMC LOG, Albany, GA
O	Barstow, CA

**Table E-6**  
**Database record structure**

Field	Description	Type	Width
MAJOR-GRP	Major group and/or commodity	Character	1
EQUIP-CAT	Equipment category	Character	1
TYPE	Type reportable item	Character	1
NSN	National stock number	Character	13
MDEP	MDEP	Character	4
SSN	Standard study number	Character	8
WPN-SYS	Weapon system	Character	3
EI-NOMEN	SSN nomenclature	Character	19

**Table E-6**  
**Database record structure—Continued**

Field	Description	Type	Width
EI-RANK1	End item rank	Character	4
NOMEN-AMS	Army master data file NSN nomenclature	Character	30
SI-RANK2	Priority item rank	Character	4
WAC	Work accomplishment code	Character	2
MI	Modification indicator	Character	1
METHOD	Organic/contract	Character	1
DEPOT	Depot code	Character	2
CMD-CD	Command code	Character	2
RCD-ID	Record indicator	Character	1
CUST-CD	Customer code	Character	2
MAJ-SEC	Major or secondary	Character	1
CUR-UMHRS	Current unit man-hours	Numeric	10
OY-UMHRS	Out year unit man-hours	Numeric	10
QTYF00-08	Funded quantity	Numeric	7
QTYU00-08	Unfunded quantity	Numeric	7
DOLF00-08	Funded dollar value	Numeric	11
DOLU00-08	Unfunded dollar value	Numeric	11
FIA-CD	Code	Character	5
NOMEN-FIA	FIA nomenclature	Character	19
REMARKS	Remarks/defer memo	Character	25

Note:

<sup>1</sup> This field is left blank.

<sup>2</sup> The priority is to be assigned based on the approved DCS, G-3/5/7 prioritization matrix (see para 8-10d).

**Table E-7**  
**Type of equipment codes**

Major group	Type reportable item	Equipment category code
Aircraft = A	A: Basic airframe	1: Fighter
	B: Engines	2: Bomber
	C: Components	3: Cargo and/or transport
	D: Communications and/or electronics	4: Trainer
	E: Weapons armament	5: Utility
	F: Ground support	
	G: Missiles	
Automotive = B	A: Basic vehicle	1: Tactical
	B: Engines	2: Support
	C: Components	3: Administrative
	D: Communications and/or electronics	
	E: Weapons armament	
	F: Support	



**Table E-7**  
**Type of equipment codes—Continued**

Major group	Type reportable item	Equipment category code
Combat vehicle = C	A: Basic vehicle	1: Tanks
	B: Engines	2: APCs
	C: Components	3: S/P artillery
	D: Communications and/or electronics	4: Other
	E: Fire control and/or armament	
	F: Support	
Construction = D	A: Basic vehicle	1: Tractor and/or earth mover
	B: Engines	2: Cranes and/or shovels
	C: Components	
Communications and/or electronics = E	A: Basic equipment	1: Radio
	B: Components	2: Radar
Missiles = F	A: Basic missile	1: Ballistic
	B: Propulsion system	2: Other
	C: Components	
	D: Launcher	
	E: Guidance system	
	F: Ground communication continuance system	
	G: Payload system	
Watercraft = G	A: Basic vessel	1: Patrol
	B: Propulsion system	2: Auxiliary and/or amphibian
	C: Electric plant	3: Service and/or MAC
	D: Communications and/or continuance	
	E: Auxiliary systems	
	F: Outfit furnishings	
	G: Other components	
Munitions = H	A: Basic munitions	1: Nuclear
	B: Components	2: CER
		3: Conventional
Weapons = I	A: Basic weapon	1: Small arms
	B: Components	2: Artillery and/or guns
		3: Other ordinance
Rail = J	A: Basic equipment	1: Locomotives
	B: Components	2: Rolling stock
General equipment = K	A: Basic equipment	1: Generators
	B: Engines	2: Material handling equipment
	C: Components	3: Bridging equipment
		4: Printing/reproduction
		5: Survey/distance/measuring

**Table E-7**  
**Type of equipment codes—Continued**

Major group	Type reportable item	Equipment category code
		6: Pump/tank/treatment
		7: Shop sets
		8: Other
Commodity group = L	A: Basic equipment	1: Test/measurement
	B: Components	2: Other
All groups	J: Test, measurement, and/or diagnostic equipment	
	K: BII and/or basic issue list item (identify major group)	
	L: Plant equipment (identify major group and equipment category)	

**Table E-8**  
**Maintenance management decision package codes**

Description	Code
ADAA	AWCF ordnance activities
ADMD	AWCF depot maintenance activities
ADSM	AWCF supply management activities
AMAE	Aircraft systems, to include all avionics, assemblies, and subassemblies
AMCE	CE equipment
AMLC	Post-production software support for the embedded operational software of all weapon systems after management responsibility has transitioned from the MATDEV to AMC
AMME	Missile systems, to include all assemblies and subassemblies
AMTE	All other weapon systems and end items of equipment to include, but not be limited to, watercraft, small arms, munitions, and engineering equipment
AMTV	Army tactical wheel vehicles
AMWE	Combat vehicle systems, to include all assemblies and subassemblies
ASLS	Logistics assistance and/or oil analysis programs
RR01	Abrams M1A1 XXI Rebuild Recapitalization
RR03	Blackhawk UH-60 Rebuild Recapitalization
RR04	Chinook CH-47D Rebuild Recapitalization
RR05	M88A1 Recovery Vehicle Rebuild Recapitalization
RR07	Armored Combat Earthmover (M9ACE) Rebuild Recapitalization
RR10	PATRIOT GSE Rebuild Recapitalization
RR13	Small Emplacement Excavator Rebuild Recapitalization
RR15	FIREFINDER (Radar Set) rebuild recapitalization
RR16	Electronic Shop and/or vans rebuild recapitalization
RR17	Field Artillery Ammo Supply Vehicle Rebuild Recapitalization
SAAA	SSTS – Artillery/Ground Armament, Small Arms
SAVN	SSTS – AVN, Avionics, Air Armament

**Table E–8**  
Maintenance management decision package codes—Continued

Description	Code
SCCC	SSTS – C4ISR
SMSL	SSTS – Missiles
SOTH	Other technical support
STAC	Tactical and/or combat teams
SSSS	Soldier support systems

Note:

<sup>1</sup> Provides a cross reference of systems to MDEP.

**Table E–9**  
Work performance codes

Code	Description
A1	Cyclic and/or normal overhaul and/or rebuild
A2	Battle and/or crash damage overhaul and/or rebuild
A3	Recapitalization maintenance work
A4	RCF
B0	Progressive maintenance
C1	Conversion not in conjunction with overhaul and/or repair
C2	Conversion in conjunction with overhaul and/or repair
D0	Activation
E0	Inactivation
F0	Renovation
G0	Analytical rework
H1	Modification not in conjunction with overhaul/repair
H2	Modification in conjunction with overhaul/repair
I0	Repair
J1	Inspect and test (excluding calibration)
J2	Inspect and test (including calibration)
J3	Inspect and test calibration pre-shop for RCM at depot level
K0	Fabricate and/or manufacture
L0	Reclamation and/or disassembly
M0	Maintenance assistance
N0	Field support representative/contract field support representative/field software engineer
T0	Plant equipment (must identify major group equipment category)
U0	Software support
U1	Infrastructure
U2	Payroll
U3	Certification and accreditation
U4	Information Assurance Vulnerability Assessment
U5	Licenses

**Table E-9**  
**Work performance codes—Continued**

Code	Description
U6	Field software engineer
U7	PPSS capability sets
U8	System mission capable
V0	Calibration
W0	CLS, interim contractor support, PBL, and similar contracts

**Table E-10**  
**Work performance code definitions**

Code	Description
A1	Cyclic, normal overhaul, and/or rebuild. Also includes the disassembly, testing, and inspecting of the operating components and the basic structure to determine and accomplish the necessary rework, replacement, and servicing required to obtain the desired performance and permit the return of an item to the supply system in accordance with maintenance standards established for each item of equipment. Includes work performed on site, when such maintenance requires the skills, tools, and equipment of depot maintenance personnel and facilities. Includes the equipment returned on a cyclic basis to depot maintenance and activities based on hours of operation, mileage, or other established operational criteria, in addition to returns based on TIs.
A2	Crash and/or battle damage is limited to equipment requiring extensive repairs due to severe damage caused as a result of accidents, battle damage or crash damage, and which will require major effort and cost to return the item to a serviceable condition.
A3	RECAP. Rebuilds or repairs equipment to a level that improves the performance capabilities of the equipment or returns the equipment to a "zero mile and/or zero hour" level with original performance specifications.
A4	Repair cycle float. RCF enables the immediate replacement of equipment being inducted for depot-level maintenance, so that readiness is not adversely affected by repair TAT.
B0	Progressive Maintenance. A predetermined amount of work that represents a partial overhaul under a program that permits the complete overhaul to be accomplished during two or more time periods.
C1	Conversion (not in conjunction with overhaul and/or repair). The alteration of the basic characteristics of a basic and/or end item, assembly, or subassembly to such an extent as to change the mission, performance, or capability, and results in a change in model designation. Conversions will be implemented only under authority of an approved DA MWO. This code applies only when conversion is performed independently of any other work performance code.
C2	Conversion (in conjunction with overhaul and/or repair). Same as work performance code C1 except this code will be used only when conversion of equipment is performed in conjunction with overhaul and/or repair. The overhaul and/or repair functions performed in conjunction with conversion will be identified to the appropriate work performance code on a separate job order.
D0	Activation. The preservation, servicing, inspection, test, and replacement of assemblies or subassemblies as required, to return a basic and/or end item from storage or inactive pool status to operational use; to include the installation of wiring harness assemblies. All shipping or receiving costs (to include packing, crating, disassembly and/or assembly) associated with this work performance code, which are initially financed by Subprogram 7M, will be reimbursed by the appropriate funding sources; for example, Central Supply or General Purpose Forces. The foregoing activities are limited to installations with a depot maintenance mission and to those services requiring the skills of depot maintenance personnel. Similar type activities and/or functions performed in relation to storage operations will be identified to the proper storage functional account. Exclude unit and set assembly.
E0	Inactivation. The servicing and preparation of equipment prior to entering storage or inactive pool status. In addition, that part of work performance code D0 definition above which refers to services performed on a reimbursable basis, and the limitation prescribed therein, is also applicable to this work performance code.
F0	Renovation. The proof and test evaluation and rework of munitions and special weapons as required for retaining the desired capability. Includes restoration of such materiel to a serviceable condition by operations more hazardous than normal maintenance and normally involving the replacement of components provided under procurement appropriation codes.

**Table E-10**  
**Work performance code definitions—Continued**

Code	Description
G0	Analytical Rework. The disassembly, test, and inspection of basic and/or end items, assemblies, or subassemblies to determine and accomplish the necessary rework, rebuild, replacement, pilot or modification required. It includes the technical analysis of the findings and the determination of maintenance criteria.
H1	Modification (not in conjunction with overhaul and/or repair). Changes or alterations which do not change the basic characteristics of an item to such an extent as to change the mission, performance, or capability, and which are installed in compliance with technical directives, such as DAS MWOs (for mandatory modifications), TBs, and TMs. This code applies only when modification is performed independently of any other work performance code.
H2	Modification (in conjunction with overhaul and/or repair). Same as work performance code H1 except this code will be used only when modifications are applied in conjunction with overhaul and/or repair. The overhaul and/or repair functions performed in conjunction with modification will be identified to the appropriate work performance code on a separate job order.
I0	Repair. The specified maintenance required to correct materiel damage or failure, as required to restore the basic and/or end item, assembly, or subassembly to the normal materiel condition. Includes maintenance performed below depot-level (that is, direct support and/or general support) by depot maintenance personnel, on a reimbursable basis only. Includes limited depot overhaul (that is, I level which uses depot diagnostic, inspection, and testing techniques to determine the nature and extent of repair required to restore equipment to a serviceable condition and qualify the equipment for domestic issue and/or oversea shipment).
J1	Inspection and test (excluding calibration). The examination and testing of equipment at the depot to determine the condition or proper functioning as related to the applicable specifications.
J2	Inspection and test. The use of qualified maintenance personnel to perform onsite inspection, test, and/or pre-shop analysis of that equipment selected under RCM for maintenance operations. Includes salaries and/or wages, temporary duty, and other costs identifiable to this function. Excludes costs under work performance codes J1 and M0 and all costs associated with code 738017.00000.
J3	Inspection and test calibration pre-shop analysis of that equipment selected under reliability centered maintenance for depot maintenance operations.
K0	Fabrication and/or manufacture (reimbursable). Manufacture The fabrication of a component or end item from raw materials or components. Can include engineering, design, test, and production. Does not include manufacturing that takes place as a part of the normal repair or overhaul processes.
L0	Reclamation disassembly (reimbursable). Authorized cannibalization and processing of end items, assemblies, or subassemblies to obtain parts or components for the supply system, which are to be retained in the inventory prior to taking disposal action on the remaining items. Excludes cost or removal of parts or components during the cannibalization process when such items are required for immediate consumption, and can be identified to specific maintenance job orders; such costs are included in the job order under the appropriate work performance code A1 through J2.
M0	Maintenance and technical assistance. Maintenance assistance—the use of qualified depot maintenance personnel funded to perform onsite repair and/or overhaul requiring those skills (and equipment) normally restricted to depot-level operations to restore unserviceable equipment to serviceable condition. Includes salaries and/or wages, temporary duty, and other costs identifiable to these functions. Excludes all costs associated with codes 738017.00000 Maintenance Support Activities and those functions of other work performance codes (for example, C1 and H1) shown above which are keyed to categories of equipment. Technical assistance—the use of qualified depot maintenance personnel to provide technical information, instructions, or guidance, or to perform specific work requiring special skills for operational activities or other maintenance organizations. Includes all demilitarization other than that incidental to reclamation when required to be reported.
N0	Field support representative/contract field support representative/field software engineer support. Either organic or contractor maintenance support or software engineering where planned or executed sustainment maintenance will be performed. Specific statement of work or TM supportability descriptions per a major end item will be addressed within a standard format of an information paper. The work performance code for field support representatives, contract field support representatives, and field software engineers will be annotated as N0.
T0	Other work. Used to complete the reporting of all maintenance workforce costs incurred. Any costs incurred at a depot maintenance activity funded by the Working Capital Fund that do not meet the criteria for reporting under the other work performance categories will be reported in this category. This includes any maintenance support costs funded by a Defense Working Capital Fund activity. Maintenance support includes centralized programming and planning support, technical, and

**Table E–10**  
**Work performance code definitions—Continued**

Code	Description
	engineering services, preparation of maintenance publications and engineering data, and technical and administrative training.
U0	Software support. The sum of all amounts for efforts required to correct software deficiencies to ensure that, during the post-deployment phase of a mission-critical computer system's life, the implemented and fielded software continues to support the system mission. Depot maintenance software support excludes efforts required to update software to operate new hardware configurations or support new mission requirements. Depot maintenance support addresses both embedded software systems and support equipment software, such as test program sets for automated test equipment.
U1	Infrastructure.
U2	Payroll.
U3	Certification and accreditation.
U4	Information Assurance Vulnerability Assessment.
U5	Licenses.
U6	Field software engineer.
U7	PPSS capability sets.
U8	System mission capable.
V0	Calibration. The comparison of a measurement system or device of unknown accuracy to a system or device of known and greater accuracy. The system or device of greater accuracy is a measurement standard. Costs (that is, salaries and/or wages per diem and travel, and operating costs of mobile vans) associated with the operation of Army Calibration and Standards Laboratories, area calibration teams, and depot mobile test and calibration vans performing calibration services. All metrology and calibration services provided to RCs, research, development, test and evaluation activities, other DOD military departments and/or agencies, and non-DOD departments and/or agencies will be performed on a reimbursable basis using inter-Service agreements. Excludes all calibration services performed in-house on station operating equipment at ADs, arsenals, research, development, test and evaluation activities. Such costs, when incurred, are a proper charge to overhead accounts for distribution to job and/or work orders.
W0	CLS, interim contractor support, PBL, and similar contracts. CLS, interim contractor support, PBL, and similar contracts provide commercial support for weapon systems and equipment that do not have an organic support base established. Contractors provide total logistics support, including depot maintenance for the equipment, end-item, and components. Only those maintenance functions that would be classified as depot level, if the equipment was maintained organically, will be included.

**Table E–11**  
**Method codes**

Code	Method
A	Organic, IOC
C	Contract
X	Organic, Navy
Y	Organic, Air Force
Z	Organic, Marine Corps

## Appendix F

### Department of Defense Core Capability Requirements Determination Methodology

#### F–1. General

This appendix contains instructions, by column, for completing DOD core capability requirements determination process.

#### F–2. Depot maintainability core capability requirements determination methodology

*a.* Description. DOD depot maintenance core policy provides a sound basis for identification of the depot maintenance capabilities required to ensure a ready and controlled source of technical competence to support the force structure identified in the planning guidance promulgated by the OSD and contingency scenarios developed by the JCS. To efficiently maintain depot maintenance core capabilities, DOD facilities, equipment, and personnel accomplish a broad range of workloads in support of peacetime operations. Most of these workloads involve the overhaul or repair of combat weapons systems and components.

*b.* Methodology. Depot maintenance core capability requirements determination methodology is used to determine essential DOD depot maintenance core capabilities for each DOD component, and the workloads needed to sustain those capabilities. The methodology can be employed to assess requirements for individual items or processes, weapons systems, or types of capabilities as applicable. The computations involved in this methodology are performed from the perspective of the DOD component that owns the depot maintenance assets and are divided into two parts. Part 1 identifies depot maintenance core capability requirements in terms of DLH, and allows for an adjustment for inter-Service considerations. Part 2 identifies the depot maintenance workloads required to cost-effectively support core capability requirements (expressed in terms of DLH). Additionally, flow diagrams and worksheets have been developed that correspond to the parts of the methodology.

(1) Part 1. Depot maintenance core capability requirements determination.

(*a*) Part 1 includes all weapons systems and equipment operated by each DOD component regardless of where depot maintenance is actually performed. As illustrated in figure F–1, the starting point is the OSD-promulgated planning guidance, to define the overall DOD force structure required to execute the JCS-developed contingency scenarios. Next, applicable weapons systems are identified, and any systems that are being excluded are documented citing the authority for that exclusion from the core process. For the remaining systems, annual peacetime depot maintenance capability requirements are computed in DLH. Next, as illustrated in figure F–2, contingency requirement and resource adjustments are made to account for applicable “surge” factors during the different phases of a contingency (for example, preparation and/or readiness, sustainment, and reconstitution). The objective is to determine the most appropriate composite “surge” adjustment for a particular set of circumstances. Overall depot maintenance capability requirements are then assessed to determine whether they include redundancy. For example, a DOD component may determine that repair capabilities for specific systems are so similar that the capabilities for one system can effectively satisfy the capability requirements for another. After redundancies have been eliminated, all the remaining requirements are identified as core depot maintenance capability requirements, expressed in DLH. Applicable information regarding the results of each step should be recorded on the DOD depot maintenance core capability worksheet (see figure F–3 (part 1) and figure F–4 (part 2)). The block designations in the methodology relate to the column designations in the worksheet.

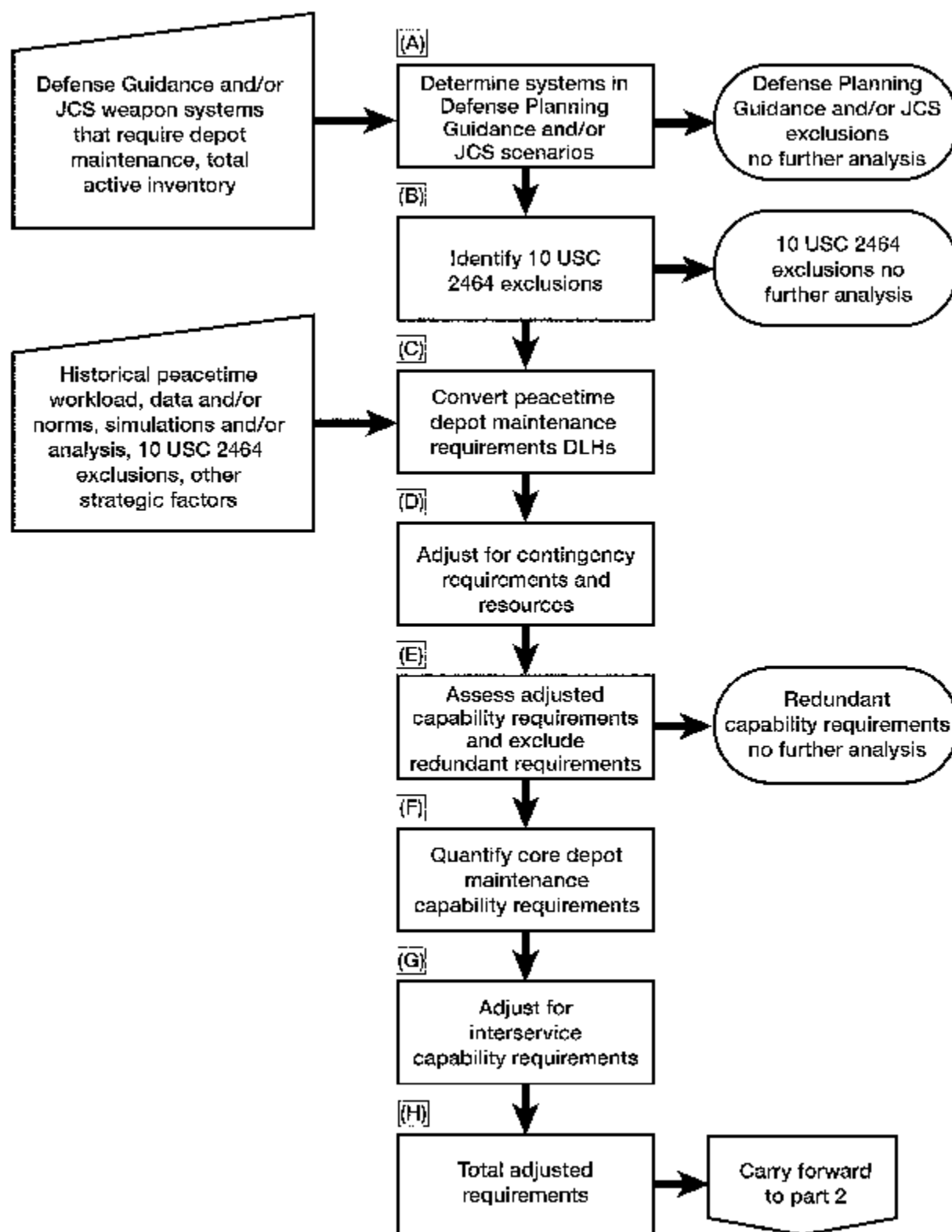


Figure F-1. Part 1—Capability requirements determination



(b) DOD components may modify the worksheets to support internal computations (for example, by adding additional columns) as long as the version submitted to OSD contains the original columns.

(c) Block A—Determine systems in JCS contingency scenarios.

1. Consider all scenario-tasking platforms and/or weapon systems that require depot maintenance, regardless of whether maintenance is currently performed at a public sector or private sector depot maintenance facility. Platforms and/or weapons systems may include multiple end items, principal items, components, subsystems, parts, and materiel, and many of these items may also be separately identified as DLRs. Record in Column A1 of the DOD depot maintenance core capability worksheet (part 1), figure F-3.

2. Quantify the total active inventory (number of units) for each platform and/or weapons system within the context of the DOD depot maintenance WBS at the type and/or model level (for example, F-15 series aircraft, LHA-class ships, M109 family of vehicles) and record within the appropriate WBS category in Column A2 on the DOD depot maintenance core capability worksheet (part 1), figure F-3.

3. Throughout Part 1, as a minimum, WBS categories are to be completed to the third level of indenture for aircraft and aircraft components, the second level of indenture for aircraft engines, and the first level of indenture for all other categories.

4. Determine how many of these platforms and/or weapons systems are included in the force structure for employment in support of JCS contingency scenarios.

5. Exclude quantities not required for the scenarios. Record the scenario requirements data in Column A3 of the DOD depot maintenance core capability worksheet (part 1), figure F-3.

(d) Block B – Identify Net After Exclusions. Identify any platforms and/or weapons systems and related DLRs that are excluded from the requirement to maintain core logistics capabilities, exclude from further analysis and document the authority for that exclusion from the core process. Record the net result in Column B of the DOD depot maintenance core capability worksheet (part 1), figure F-3.

(e) Block C – Convert Scenario Requirements to Peacetime DLH. Use appropriate factors (for example, historical workload averages, work standards, occurrence factors, historical peacetime capabilities, technology-based requirements) to convert platform and/or weapons system requirements passed from Block B into annual depot maintenance DLH. Add DLH data to applicable WBS categories to account for DLRs that are installed in platforms and/or weapons systems or otherwise employed in JCS scenarios, but not already included in Block A platform and/or weapons system depot maintenance data. Record results in Columns C1 and C2 of the DOD depot maintenance core capability worksheet (part 1), figure F-3, as applicable.

(f) Block D – Adjust for Contingency Requirements and Resources. The adjustment occurs in two steps.

1. Step D1: Adjust for Contingency Requirements. Adjust annual peacetime depot maintenance DLH data by applying a surge factor for requirements during the readiness, sustainment, and reconstitution phases of contingency operations. Base surge factors on contingency simulations, logistics support analyses, and/or historical data for both peacetime and wartime operations. Select the most appropriate requirement for readiness, sustainment, or reconstitution capabilities and record results in DLH in Column D1 of the DOD depot maintenance core capability worksheet (part 1), figure F-3. See figure F-2 for a notional requirements and resource adjustment process.

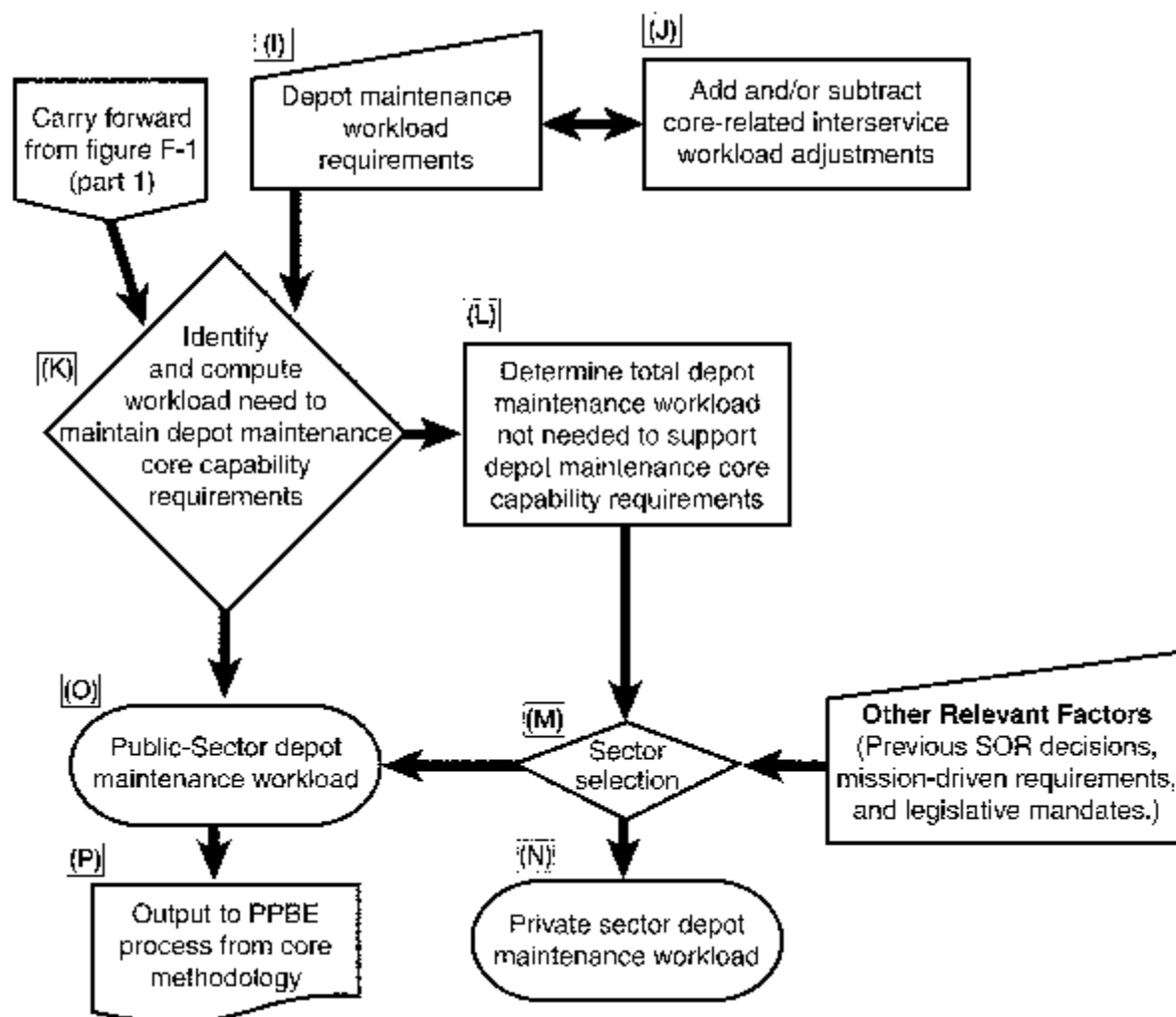


Figure F-2. Part 2—Workload allocation

2. Step D2: Adjust for Resources. Apply an appropriate resource adjustment factor (for example, 1.6) to the DLH from Column D1 of the worksheet. This factor accounts for the ability of on-hand peacetime depot maintenance resources to increase production by operating additional hours without being augmented by additional facilities, equipment, or personnel. Record the results in DLH in Column D2 of the DOD depot maintenance core capability worksheet (part 1), figure F-3.

(g) Block E – Adjust for Redundant Requirements. The DOD components may adjust the size of core capability requirements to an amount deemed sufficient to assure adequate depot maintenance support for their strategic or contingency operations. Such adjustments will, however, consider the needs to prevent adverse impacts in the event of a failure to perform by any element in the sustainment process and to assure the DOD depots' adequate responsiveness to operational requirements. The DLH determined as a result of the calculations outlined in blocks A through D may be adjusted further to address redundant capability requirements (that is, multiple platforms that are so similar they share a common or complementary base of repair processes, technologies, and capabilities; or when a large quantity of single platform requirements necessitate duplicate DOD capabilities). Each DOD component makes its own redundant core capability requirements adjustments.

(h) Block F – Quantify Depot Maintenance Core Capability Requirements. Quantify the depot maintenance core capabilities that must be provided by Government personnel, equipment, and facilities in compliance with paragraph F-2b. Apply adjustments required by Block E to the results of Block D and record the result in Column F of the DOD depot maintenance core capability worksheet (part 1), figure F-3.

(i) Block G Adjust for Inter-Service Capability Requirements. Determine whether any of the DLH requirements passed from block F will be satisfied by other DOD depot maintenance capabilities. Include core capability requirements necessary to support other DOD components, and exclude capability requirements that will be supported by other DOD components. Record inter-Service requirements “in” and inter-Service requirements “out” in Columns G1 and G2, respectively, of the DOD depot maintenance core capability worksheet (part 1), figure F-3.

(j) Block H – Total Adjusted Requirements. Record the net adjusted requirements in Column H of DOD depot maintenance core capability worksheet (part 1), figure F-3. Carry this information forward to the workload identification process described in block K (see para F-2b (2)(e)).

(2) Part 2. Depot maintenance workload allocation.

(a) Part 2 identifies the workloads necessary to sustain the depot maintenance core capability requirements identified in Part 1. In this part, the depot maintenance workloads that are needed to maintain core capabilities are subtracted from total public sector depot maintenance funded workload, leaving those workloads that are not necessary to sustain core capability requirements available for Service SOR decisions. This part establishes a minimum level of public sector depot maintenance workloads within each DOD component. The data may also be used to assist in the identification of depot maintenance capital investments that must be made to comply with paragraph F-2b requirements for establishment of core depot maintenance capabilities within 4 years of IOC. Figure F-2 is a flow diagram for Part 2. Applicable information regarding the results of each step in this process should be recorded on the DOD depot maintenance core capability worksheet (part 2), figure F-4.

(b) Throughout Part 2, as a minimum, WBS categories in the worksheet are to be completed to the third level of indenture for aircraft and aircraft components, the second level of indenture for aircraft engines, and the first level of indenture for all other categories.

(c) Block I – Quantify Total Depot Maintenance Workload. Quantify all public sector depot maintenance workloads for your own DOD component in terms of DLH. Record this workload data in Column I of the DOD depot maintenance core capability worksheet (part 2), figure F-4.

FY20xx DOD depot maintenance core capability worksheet for XXXXXXXX Army Depot													
Description	Column A			Column B	Column C		Column D		Column E	Column F	Column G		Column H
	Determine systems in DPG/JCS scenarios			Identify net after exclusions	Convert scenario requirements to peacetime DLHs		Adjust for contingency requirements and resources		Adjust for redundant requirements	Quantity depot maintenance core capability	Adjust for interservice capability requirements		Total adjusted requirements
	A1	A2	A3	B1	C1	C2	D1	D2	E1	F1	G1	G2	H1
Work Breakdown Structure Category	Tasked platform system	Total activity inventory	Number in scenarios	Net after exclusions	Platform DLHs	DLR DLHs	Result after contingency adjustment	Result after resource adjustment	Redundant requirements	DLHs	Inter-service in	Inter-service out	Adjusted requirements
2. Ground vehicles													
2.1 Combat Vehicles													
ANNISTON													
2.1.1 M1 FOV													
3. 2.1.1.1 Vehicle	T13168	5,033	1,548	1,548	807,786	-	1,060,095	961,852	-	961,852	293,469	-	961,852
2.1.1.2 SEP	T13305	665	635	635	55,670	-	72,371	47,681	-	47,681	-	-	47,681
2.1.1.3 Transmission						58,332	112,231	73,943	-	73,943	-	-	73,943
2.1.1.4 Engine						423,153	550,068	362,430	-	362,430	-	-	362,430
4. 2.1.1.5 Final drive						10,554	13,720	9,039	-	9,039	-	-	9,039
2.1.1.6 Turret/fire control components						83,834	108,984	71,804	-	71,804	-	-	71,804
2.1.1.7 Components						162,196	210,854	138,921	-	138,921	-	-	138,921
2.1.1.8 Other						20,757	28,984	17,778	-	17,778	-	-	17,778
Subtotal					883,436	756,826	2,147,337	1,683,448	-	1,683,448	293,469	-	1,683,448
2.1.2 M60A1VB													
2.1.2.1 Vehicle	L43864	350	-	-	73,737	-	95,858	63,155	-	63,155	-	-	63,155
2.1.2.2 Bridge						48,913	60,987	40,181	-	40,181	-	-	40,181
2.1.2.3 Engine						40,840	52,832	34,808	-	34,808	-	-	34,808
5. 2.1.2.4 Transmission						11,997	15,696	10,276	-	10,276	-	-	10,276
2.1.2.5 Final drive						5,274	6,856	4,517	-	4,517	-	-	4,517
2.1.2.6 Turret/fire control components						-	-	-	-	-	-	-	-
2.1.2.7 Components						12,508	16,260	10,713	-	10,713	-	-	10,713
2.1.2.8 Other						43,224	56,191	37,021	-	37,021	-	-	37,021
Subtotal					73,737	160,556	304,580	200,671	-	200,671	-	-	200,671
6. 2.1.3 M88													
2.1.3.1 Vehicle					355,793	-	462,531	304,737	-	304,737	-	-	304,737
2.1.3.2 Vehicle IRV Hercules	R50865	108	100	100	6,520	-	8,476	5,584	-	5,584	-	-	5,584
2.1.3.3 Engine						143,887	187,027	123,222	-	123,222	-	-	123,222
2.1.3.4 Transmission						49,799	64,738	42,653	-	42,653	-	-	42,653
2.1.3.5 Final drive						10,686	13,991	9,152	-	9,152	-	-	9,152
2.1.3.6 Turret/fire control components						-	-	-	-	-	-	-	-
2.1.3.7 Components						26,652	34,647	22,827	-	22,827	-	-	22,827
7. 2.1.3.8 Other						-	-	-	-	-	-	-	-
Subtotal					362,313	231,004	771,310	508,175	-	508,175	-	-	508,175

Figure F-3. Department of Defense depot maintenance core capability worksheet (part 1)

(d) Block J – Add/Subtract Inter-Service Workload Adjustments.

1. Adjust Block I workload data to account for any workloads that one DOD component is providing to another DOD component. These adjustments may either increase or decrease the total DLH quantities passed from block I, depending on whether the affected DOD component is the “principal” or “agent” for a particular depot maintenance workload.

2. Record inter-Service workload “in” in Column J1 and inter-Service workload “out” in Column J2 of the DOD depot maintenance core capability worksheet (part 2), figure F-4.

(e) Block K – Identify and Compute Workload Needed to Maintain Depot Maintenance Core Capability Requirements. Considering the information from Blocks G and H, identify workloads to be used to sustain core capability requirements. Express these workloads in terms of DLH. Substitutions of similar workloads may be made as necessary to fulfill core capability requirements for systems with limited inventories or fluctuating workload requirements. Record core-sustaining workload data in terms of DLH in Column K on the worksheet. If there is a shortfall in the workloads available to sustain required core capabilities, then this shortfall must be considered in Block P, or workloads currently being performed under contract should be considered for performance at a public sector facility to satisfy that requirement.

(f) Block L – Determine Depot Maintenance Workload Not Needed to Support Depot Maintenance Core Capability Requirements. Identify the depot maintenance workloads (expressed in terms of DLH) that do not directly support core capability requirements. Record non-core sustaining workload data in Column L on the DOD depot maintenance core capability worksheet (part 2), figure F-4.

(g) Block M – Sector Selection. The DOD components will identify the most appropriate sources of repair (public or private sector) for all depot maintenance workloads passed from Block L, as follows:

1. Adjust Block I workload data to account for any workloads that one DOD component is providing to another DOD component. These adjustments may either increase or decrease the total DLH quantities passed from block I, depending on whether the affected DOD component is the “principal” or “agent” for a particular depot maintenance workload.

2. Record inter-Service workload “in” in Column J1 and inter-Service workload “out” in Column J2 of the DOD depot maintenance core capability worksheet (part 2), figure F-4.

3. Adjust block I workload data to account for any workloads that one DOD component is providing to another DOD component. These adjustments may either increase or decrease the total DLH quantities passed from Block I, depending on whether the affected DOD component is the “principal” or “agent” for a particular depot maintenance workload.
  4. Record inter-Service workload “in” in Column J1 and inter-Service workload “out” in Column J2 of the DOD depot maintenance core capability worksheet (part 2), figure F–4.
  5. Identify all other relevant data necessary to make value-driven depot maintenance SOR evaluations (for example, previous SOR decisions, mission-driven requirements, legislative mandates).
  6. Identify and allocate directed workload requirements.
  7. Identify any depot maintenance workloads for which there are no known commercial sources and allocate those workloads to public sector facilities.
  8. Identify any workloads needed to ensure efficient operation of core depot maintenance capabilities in accordance with the provisions of paragraph F–2*b* and allocate those workloads to public sector facilities.
  9. Identify any workloads needed to ensure that not more than 50 percent of nonexempt depot maintenance funding is expended for performance by non-Federal Government personnel in accordance with the provisions of paragraph F–2*b* and allocate those workloads to public sector facilities.
  10. Allocate all remaining workloads as appropriate based on best value criteria.
- (*h*) Block N – Private Sector Depot Maintenance Workload. Quantify in terms of total funding required (\$) all depot maintenance workloads performed by private sector depot maintenance facilities. Record this data in Column N on the DOD depot maintenance core capability worksheet (part 2), figure F–4.
- (*i*) Block O – Public Sector Depot Maintenance Workload. Quantify in terms of DLH the total amount of workload that directly supports depot maintenance core capability requirements, plus any other workload that is most appropriately performed by public sector maintenance facilities. Record this data in Column O of the DOD depot maintenance core capability worksheet (part 2), figure F–4.
- (*j*) Block P – Output to Service Planning, Programming, and Budgeting System. Use workload data from block K and block O to ensure that the Planning, Programming, and Budgeting System process adequately supports depot maintenance core capabilities in accordance with paragraph F–2*b*. Compare planned capital investments to weapons systems IOC milestones to ensure capital investment decisions adequately support depot program capability within IOC plus 4 years.

FY20xx DOD depot maintenance core capability worksheet for XXXXXXXX Army Depot								
	Column I	Column J		Column K	Column L	Column M	Column N	Column O
Description	Quantity total depot maintenance (DM) workload	Add/subtrack interservice workload adjustments		Identify and compute workload needed to maintain DM to core	Determine total DM workload not needed to support DM core	Sector Selection	Private-sector DM workload	Public-sector DM workload
	I1	J1	J2	K1	L1	M1	N1	O1
Work Breakdown Structure Category	DLHs	DLHs In	DLHs Out	DLHs	DLHs	Selection	\$	DLHs
2. Ground vehicles								
2.1 Combat Vehicles								
ANNISTON								
2.1.1 M1 FOV	-	293,469	-	-	-	-	-	-
3. 2.1.1.1 Vehicle	1,101,235	-	-	691,852	115,914	-	-	691,852
2.1.1.2 SEP	55,670	-	-	47,681	7,989	-	-	47,681
2.1.1.3 Transmission	86,332	-	-	73,943	12,389	-	-	73,943
2.1.1.4 Engine	423,153	-	-	362,430	60,723	-	-	362,430
4. 2.1.1.5 Final drive	10,554	-	-	9,039	1,515	-	-	9,039
2.1.1.6 Turret/fire control components	83,834	-	-	71,804	12,030	-	-	71,804
2.1.1.7 Components	162,196	-	-	138,921	23,275	-	-	138,921
2.1.1.8 Other	20,757	-	-	17,778	2,979	-	-	17,778
Subtotal	1,943,731	293,469	-	1,413,448	236,814	-	-	1,413,448
2.1.2 M60AVLB	73,737	-	-	63,155	10,582	-	-	63,155
2.1.2.1 Vehicle	46,913	-	-	40,181	6,732	-	-	40,181
2.1.2.2 Bridge	40,640	-	-	34,808	5,832	-	-	34,808
2.1.2.3 Engine	11,997	-	-	10,276	1,721	-	-	10,276
5. 2.1.2.4 Transmission	5,274	-	-	4,517	757	-	-	4,517
2.1.2.5 Final drive	-	-	-	-	-	-	-	-
2.1.2.6 Turret/fire control components	12,508	-	-	-	1,795	-	-	-
2.1.2.7 Components	43,224	-	-	37,021	6,203	-	-	37,021
2.1.2.8 Other	-	-	-	-	-	-	-	-
Subtotal	234,293	-	-	189,958	33,622	-	-	189,958
6. 2.1.3 M88	355,793	-	-	304,737	51,056	-	-	304,737
2.1.3.1 Vehicle	6,520	-	-	5,584	936	-	-	5,584
2.1.3.2 Vehicle IRV Hercules	143,867	-	-	123,222	20,645	-	-	123,222
2.1.3.3 Engine	49,799	-	-	42,653	7,146	-	-	42,653
2.1.3.4 Transmission	10,686	-	-	9,152	1,534	-	-	9,152
2.1.3.5 Final drive	-	-	-	-	-	-	-	-
2.1.3.6 Turret/fire control components	26,652	-	-	22,827	3,825	-	-	22,827
2.1.3.7 Components	-	-	-	-	-	-	-	-
7. 2.1.3.8 Other	-	-	-	-	-	-	-	-
Subtotal	593,317	-	-	508,175	85,142	-	-	508,175

Figure F-4. Department of Defense depot maintenance core capability worksheet (part 2)

## **Appendix G**

### **DA Form 7567 (Special Repair Authority (SRA) Approval/Disapproval Sheet)**

#### **G–1. Purpose**

This set of procedures provides a standardized methodology and rationale for AMC MSC to either approve or recommend disapproval of requests to accomplish DLRs on items with a MRC code of D or L.

#### **G–2. Instructions for completing DA Form 7567**

DA Form 7567 contains a series of calculations that require the input of specific values. These calculations along with other variables identified on the form are taken into consideration along with the potential impact on unit readiness to derive a tentative decision as to whether SRA should be approved or disapproved for the requesting organization. The various data elements contained in the form (shown in fig G–1) are described in the legend.

# SPECIAL REPAIR AUTHORITY (SRA) APPROVAL/DISAPPROVAL SHEET

For use of this form, see AR 750-1, the procedure, agency is DCS G-4.

1. SRA NUMBER TA 004 13		2. AS OF DATE (YYYYMMDD) 26 10 2011	
3. SUBMITTING AGENCY TACOM		4. SUBMITTING UNIT 3RD INFANTRY DIVISION	
5. ITEM MANAGER JOHN DOE		6. DEN P IONE NUMBER 741-1988	
7. COMPONENT TRANSFER		8. FIN 01-444-2918	9. SYSTEM TRUCK, MEDIUM TACTICAL VEHICLE
10. ITEM			
a. Nations recruitment objective (RO)		100 200	
b. Does RO contain War Reserves?		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
c. Issuable portion of RO (quantity)		100	
d. What is the total number of unserviceable assets (Army Working Control Fund Supply Management Policy (AWCP-SMA)?		20	
e. Total number of serviceable assets less War Reserves (AWCP-SMA)		20	
f. Quantity of procure wear spares due in within the next 12 months		100	
g. For procurement spares due in, what is the delivery schedule by month and quantity?			
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC			
0 10 10 10 10 10 10 10 10 10 10 10			
h. Issue Priority Group (IPG)			
(1) Identify backorders for IPG 1		20	
(2) Identify backorders for IPG 2		30	
(3) Identify backorders for IPG 3		40	
(4) TOTAL IPG (Total of IPG 1, IPG 2, and IPG 3)		90	
i. NET assets posture (D + E + F - TOTAL IPG)		100	
j. Is item access to issuable portion of the RO?		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
k. Is item a repair program in support of the AWCP-SMA (spare, component, below depot)?		YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
(1) Established repair program?		YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
(2) Is program at one of the specified levels cited?		YES <input checked="" type="checkbox"/> NO <input type="checkbox"/>	
l. Annual production requirement/Number produced to date		100 100	
m. Demand information			
(1) What is the average monthly demand?		1	
(2) What is the surge demand?		5	
n. Does technical data package exist to support repair procedure?		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
o. Recommend SRA approval?		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
p. Comments			
(1) Are there any other issues to be recommended for approval/disapproval?		YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>	
(2) If so, what?			
11. REMARKS			
a. Unit requested to repair 12 transfers to meet immediate readiness requirements.			
b. Unit will notify Headquarters, Army Materiel Command upon completion of SRA conditions.			
12a. FINAL SRA <input checked="" type="checkbox"/> APPROVED <input type="checkbox"/> DISAPPROVED		12b. SRA CONDITIONS SRA expires after 12 transfers are repaired or on 31 FEB 2014, whichever occurs first.	
12c. TYPED NAME JAMES DOE		12d. SIGNATURE DIGITAL SIGNATURE 12345678	

DA FORM 7567, MAY 2005

APPROPRIATE

## Legend

Completion instructions:

1. SRA NUMBER. The SRA number is assigned to a request by the MSC responsible for management of the item. The SRA number is used for tracking and reporting purposes.



2. AS OF DATE (YYYYMMDD). Normally, this will be the date the request is received by the MSC.

3. SUBMITTING MSC. This is the actual name of the MSC to whom the request has been submitted. Normally, it will be one of three organizations: AMCOM for aviation assets, CECOM for communications and electronic items, or TACOM for tactical and combat vehicles.

4. SUBMITTING UNIT. This is the organization that has initiated the request for special repair authorization.

5. ITEM MANAGER. The name of the specific item manager within one of the three MSCs who manages the item.

6. DSN PHONE NUMBER. Phone number of the item manager.

7. COMPONENT. Name of the component or next higher major assembly associated with the requested repair.

8. NIIN. NIIN for the item to be repaired or its next higher assembly.

9. SYSTEM. Noun nomenclature of the end item containing the component or assembly requiring the DLR.

10. ITEM.

a. National RO. This is the level of requirements determined to be the objective needed to support the force at the national level. This quantity is maintained and under the visibility of the supporting MSC item manager.

b. Does the RO include War Reserves? If assets maintained in war reserves represent a portion of the RO, then the question initially requires a YES answer and the quantity of war reserve assets must be entered into the appropriate cell on the spreadsheet. If none of the war reserve assets are considered in the RO, then the response is NO and no entry is required in the assigned cell.

c. Issuable portion of the RO (quantity). The cell associated with this item reflects the difference between the issuable portion of the national RO and any assets in War Reserves.

d. What is the total number of unserviceable assets (AWCF–SMA)? The information in the cell associated with this question determines what unserviceable assets are available in AWCF–SMA that potentially could be scheduled for maintenance or repair to support the request.

e. Total number of serviceable assets less War Reserves (AWCF–SMA). The total number of serviceable assets in the AWCF–SMA represents a hard number of assets that may be issued against valid requirements. True availability, however, is determined after subtracting any war reserve assets that may also be included.

f. Quantity of procurement spares due in within the next 12 months. Another potential source that may be considered for satisfying an SRA request may be the availability of any spare assets that may be procured over the next 12 months. If known, the total quantity due-in should be entered into the corresponding cell in the spreadsheet.

g. For procurement spares due in, what is the delivery schedule by month and quantity? If there is an established schedule, enter the monthly quantity due in the corresponding cell and then provide any additional information concerning the schedule in the space provided below the question.

h. Issue priority group (IPG)).

(1) Identify backorders for IPG 1. IPG 1 is a grouping of priority designators 01, 02 and 03. The total backorders for the IPG 1 should be entered into the corresponding cell for this item.

(2) Identify backorders for IPG 2. IPG 2 is a grouping of priority designators 04, 05, 06, 07 and 08. The total backorders for the IPG 2 should be entered in the corresponding cell for this item.

(3) Identify backorders for IPG 3. IPG 3 is a grouping of priority designators 09, 10, 11, 12, 13, 14, and 15.

(4) TOTAL IPG (total of IPG 1, IPG 2, and IPG 3)

i. NET assets posture (D + E + F – TOTAL IPG). The NET asset posture is calculated by combining the total number of unserviceable assets, serviceable assets and spares due in over the next 12 months minus the total of IPG 1, 2 and 3.

j. Is item excess to issuable portion of the RO? The question concerns the item for which special repair is being sought and requires only a YES or NO response in the area provided. If the item is in excess of the issuable portion of the RO, a recommendation for disapproval will be forwarded.

k. Is there a repair program in support of the AWCF–SMA (depot, contractor, below depot)? This item requires two additional separate YES or NO responses.

(1) Established repair program? Is there an established repair program in support of the AWCF–SMA?

(2) Is program at one of the specific levels cited? Self-explanatory.

l. Annual production requirement/Number produced to date. If production information is available for an established program, then enter for both parts of the question.

m. Demand information.

(1) What is the average monthly demand? Enter the average monthly demand information for the asset.

(2) What is the annual demand? Enter the annual demand.

n. Does technical data package exist to validate repair procedure? Ascertain availability of technical data package needed to support repair of the asset and enter the appropriate answer in the space provided.

o. Recommend SRA approval? Check YES or NO. Except for the actual description of the readiness impact (should be fully stated in requestor's cover memo), a response of approved or disapproved will be generated based on all the input previously entered.

p. Overrides.

(1) Are there extenuating circumstances to override recommended approval/disapproval? If there are any circumstances that would affect approval of disapproval, enter a response of YES or NO, as appropriate.

(2) If so, what? Clearly state any extenuating circumstances that could justify reversing the recommendation provide in item "q" above.

11. REMARKS. Enter the number of items requested for the SRA, pertinent rationale, and any additional information. Enter a statement for the unit to notify Headquarters, AMC upon completion of the SRA condition.

12a. FINAL SRA. After careful consideration of all the information, the item manager or MSC commander's formally designated representative should render a final decision as APPROVED or DISAPPROVED. All disapprovals at the MSC level should be formally recommended for disapproval through Headquarters, AMC to the DCS, G–4 (Maintenance Directorate) representative for final decision authority.

12b. SRA conditions. Enter a statement to limit the SRA to the total number of items or 1-year period from approval date. 12c. TYPED NAME. Type the name of the SRA approving authority.

12d. SIGNATURE. The SRA approving authority will sign in this block.

\*\*\*\*End of Legend\*\*\*\*

**Figure G–1. Sample of DA Form 7567**

## Appendix H

### Internal Control Evaluations

#### Section I

##### Equipment maintenance (Assistant Division Commander for Support/Army Command, G–4)

###### H–1. Function

The function covered by this evaluation is equipment maintenance.

###### H–2. Purpose

The purpose of this evaluation is to assist the Assistant Division Commander for Support (ADCS), ACOM, ASCC, and DRU G–4 in evaluating the key internal controls listed below. It is not intended to cover all controls.

###### H–3. Instructions

Answers must be based on the actual testing of key internal controls (for example, document analysis, direct observation, sampling, simulation, and/or other). Answers that indicate deficiencies must be explained and the corrective action identified in supporting documentation. These internal controls must be evaluated at least once every 5 years. Certification that the evaluation has been conducted must be accomplished on DA Form 11–2 (Internal Control Evaluation Certification).

###### H–4. Test questions

- a.* Are commanders actively involved in their maintenance programs?
- b.* Are subordinates held accountable for proper maintenance operations?
- c.* Is equipment being maintained to the Army maintenance standard?
- d.* Are units assigning proper priorities to unserviceable equipment?
- e.* Is a maintenance officer appointed in writing to supervise maintenance operations?
- f.* Are maintenance SOPs established and trained?
- g.* Are maintenance operations performed by military personnel in combat areas or hazardous duty areas as determined by the combatant commander?
- h.* Is standard Army TMDE, to include embedded diagnostics used during maintenance operations to diagnose and repair equipment?
- i.* Are maintenance personnel effectively using TMDE and embedded diagnostics in maintenance operations?
- j.* Are controlled exchanges made only under authorized circumstances?
- k.* Are maintenance operations performed using the Army Maintenance System?
- l.* Are maintenance operations performed in accordance with environmental security provisions?

###### H–5. Supersession

This evaluation replaces the evaluation for equipment maintenance previously published in AR 750–1, dated 3 August 2017.

###### H–6. Comments

Help make this a better tool for evaluating internal controls. Submit comments to the DCS, G–4 (DALO–SMM), 500 Army Pentagon, Washington, DC 20310–0500.

#### Section II

##### Maintenance Management System (Assistant Division Commander for Support/Major Army Command, G–4)

###### H–7. Function

The function covered by this evaluation is maintenance management systems.

###### H–8. Purpose

The purpose of this evaluation is to assist the Division ADCS/ACOM, ASCC, and DRU, G–4 and commanders in evaluating the key internal controls listed below. It is not intended to cover all controls.

## **H-9. Instructions**

Answers must be based on the actual testing of key internal controls (for example, document analysis, direct observation, sampling, simulation, and/or other). Answers that indicate deficiencies must be explained and the corrective action identified in supporting documentation. These internal controls must be evaluated at least once every 5 years. Certification that the evaluation has been conducted must be accomplished on DA Form 11-2 (Internal Control Evaluation Certification).

## **H-10. Test questions**

See paragraph 4-15.

- a.* Are Army maintenance LIS/GCSS-Army the primary means of managing maintenance?
- b.* Are maintenance activities using automated procedures, processes, and forms located in appendix A?
- c.* Are maintenance man-hour expenditure data being entered into GCSS-Army and/or the appropriate LIS and are the data being forwarded to higher level automations systems/databases?

## **H-11. Supersession**

This evaluation replaces the evaluation for maintenance management systems previously published in AR 750-1, dated 3 August 2017.

## **H-12. Comments**

Help make this a better tool for evaluating internal controls. Submit comments to DCS, G-4 (DALO-SMM), 500 Army Pentagon, Washington, DC 20310-0500.

## **Section III**

### **Manpower Utilization Standards (Assistant Division Commander for Support and/or Army Command, G-4)**

## **H-13. Function**

The function covered by this evaluation is manpower utilization.

## **H-14. Purpose**

The purpose of this evaluation is to assist the Division ADCS/ACOM, ASCC, and DRU G-4 and commanders in evaluating the key internal controls listed below. It is not intended to cover all controls.

## **H-15. Instructions**

Answers must be based on the actual testing of key internal controls (for example, document analysis, direct observation, interviewing, sampling, simulation, and/or other). Answers that indicate deficiencies must be explained and the corrective action identified in supporting documentation. These internal controls must be evaluated at least once every 5 years. Certification that the evaluation has been conducted must be accomplished on DA Form 11-2 (Internal Control Evaluation Certification).

## **H-16. Test questions**

See paragraph 4-14.

- a.* Are commanders that operate under SAMS-E including accurate monthly man-hour utilization statistics in their quarterly review and analysis or similar performance monitoring program?
- b.* Are military maintenance personnel assigned to positions that maximize the use of their MOS skills on a daily basis?
- c.* Do military maintenance personnel perform maintenance mission tasks at least 50 percent of total available time?
- d.* Do civilian maintenance personnel perform maintenance mission tasks at least 85 percent of total available time?

## **H-17. Supersession**

This evaluation replaces the replaces the evaluation for manpower utilization standards previously published in AR 750-1, dated 3 August 2017.

## **H-18. Comments**

Help make this a better tool for evaluating internal controls. Submit comments to the DCS, G-4 (DALO-SMM), 500 Army Pentagon, Washington, DC 20310-0500.

## **Section IV**

### **Army Oil Analysis Program (Assistant Division Commander for Support/Army Command, G-4)**

#### **H-19. Function**

The function covered by this evaluation is the AOAP.

#### **H-20. Purpose**

To assist the ACOM, ASCC, and DRU, G-4, Division ADCS, and senior leaders in evaluating key internal controls. It is not intended to cover all controls.

#### **H-21. Instructions**

Answers must be based on the actual testing of key internal controls (for example, document analysis, direct observation, sampling, simulation, and/or other). Answers that indicate deficiencies must be explained and the corrective action identified in supporting documentation. These internal controls must be evaluated at least once every 5 years. Certification that the evaluation has been conducted must be accomplished on DA Form 11-2 (Internal Control Evaluation Certification).

#### **H-22. Test questions**

See paragraph 8-2.

- a.* Have AOAP monitors at each level of command been assigned and properly trained?
- b.* Are commanders executing AOAP for those items listed in TB 43-0211?
- c.* Is maintenance feedback being sent to laboratories by units?
- d.* Are supported units properly responding to laboratory recommendations?

#### **H-23. Supersession**

This evaluation replaces the evaluation for AOAP previously published in AR 750-1, dated 3 August 2017.

#### **H-24. Comments**

Help make this a better tool for evaluating internal controls. Submit comments to the DCS, G-4 (DALO-SMM), 500 Army Pentagon, Washington, DC 20310-0500.

## **Section V**

### **Army Oil Analysis Program (U.S. Army Materiel Command)**

#### **H-25. Function**

The function covered by this evaluation is the AOAP.

#### **H-26. Purpose**

The purpose of this evaluation is to assist the AMC DCS, G-3/5/7 in evaluating the key internal controls. It is not intended to cover all controls.

#### **H-27. Instructions**

Answers must be based on the actual testing of key internal controls (for example, document analysis, direct observation, sampling, simulation, and/or other). Answers that indicate deficiencies must be explained and the corrective action identified in supporting documentation. These internal controls must be evaluated at least once every 5 years. Certification that the evaluation has been conducted must be accomplished on DA Form 11-2 (Internal Control Evaluation Certification).

#### **H-28. Test questions**

See paragraph 8-2.

- a.* Is required laboratory equipment being programmed, funded, and procured?
- b.* Are AOAP laboratory operations adequately funded?
- c.* Are laboratory instruments and personnel properly certified?
- d.* Are weapon systems and sampling intervals evaluated at least annually and regulatory guidance revised accordingly?
- e.* Is the AOAP equipment component list being reviewed and approved annually?
- f.* Is TB 43-0211 being updated annually to reflect approved changes?

#### **H-29. Supersession**

This evaluation replaces the evaluation for AOAP previously published in AR 750-1, dated 3 August 2017.

#### **H-30. Comments**

Help make this a better tool for evaluating internal controls. Submit comments to the DCS, G-4 (DALO-SMM), 500 Army Pentagon, Washington, DC 20310-0500.

### **Section VI**

#### **Maintenance Expenditure Limits (Assistant Division Commander for Support/Major Army Command, G-4)**

#### **H-31. Function**

The function covered by this evaluation is MELs.

#### **H-32. Purpose**

The purpose of this evaluation is to assist the Division ADCS/ACOM, ASCC, and DRU, G-4 in evaluating the key internal controls listed below. It is not intended to cover all controls.

#### **H-33. Instructions**

Answers must be based on the actual testing of key internal controls (for example, document analysis, direct observation, sampling, simulation, and/or other). Answers that indicate deficiencies must be explained and the corrective action identified in supporting documentation. These internal controls must be evaluated at least once every 5 years. Certification that the evaluation has been conducted must be accomplished on DA Form 11-2 (Internal Control Evaluation Certification).

#### **H-34. Test questions**

See paragraph 4-6.

- a.* Are field and sustainment maintenance units and activities using MELs to determine if excess and accident-damaged equipment is economically repairable?
- b.* Are conditions for waivers of published MELs being met?
- c.* Is a repair or upgrade decision process established for COTS computers, personal digital assistants, and associated devices, to include MEL of 65 percent of replacement costs?
- d.* Are prescribed MELs being bypassed by using separate job estimates to repair an item?

#### **H-35. Supersession**

This evaluation replaces the evaluation for MELs previously published in AR 750-1, dated 3 August 2017.

#### **H-36. Comments**

Help make this a better tool for evaluating internal controls. Submit comments to the DCS, G-4 (DALO-SMM), 500 Army Pentagon, Washington, DC 20310-0500.

### **Section VII**

#### **Army Operational Readiness Float Program (Army command, Army service component command, and DRUM G-4)**

#### **H-37. Function**

The function covered by this evaluation is the Army Operational Readiness Float Program.

#### **H-38. Purpose**

The purpose of this evaluation is to assist the ACOM, ASCC, and DRU, G-4s in evaluating the key internal controls listed below. It is not intended to cover all controls.

#### **H-39. Instructions**

Answers must be based on the actual testing of key internal controls (for example, document analysis, direct observation, sampling, simulation, and/or other). Answers that indicate deficiencies must be explained and the corrective action identified in supporting documentation. These internal controls must be evaluated at least once every 5 years. Certification that the evaluation has been conducted must be accomplished on DA Form 11-2 (Internal Control Evaluation Certification).

#### **H-40. Test questions**

See paragraph 8-7.

- a.* Has a float coordinator been appointed in writing?
- b.* Are Float assets being maintained in accordance with appropriate TMs and LOs?
- c.* Are Float assets being used exclusively for their intended purpose?
- d.* Is Army Float accountability being properly maintained?
- e.* Are excess float assets being disposed of in accordance with appropriate guidance and regulations?
- f.* Are monthly ORF readiness reports submitted in accordance with AR 700-138?
- g.* Have ORF managers submitted the quarterly list of ORF demands by category and ORF transactions to the ACOM, ACSS or DRU ORF Coordinator?

#### **H-41. Supersession**

This evaluation replaces the evaluation for ORF previously published in AR 750-1, dated 3 August 2017.

#### **H-42. Comment**

Help make this a better tool for evaluating internal controls. Submit comments to the DCS, G-4 (DALO-SMM), 500 Army Pentagon, Washington, DC 20310-0500.

### **Section VIII**

**Army Operational Readiness Float Program (Assistant Secretary of the Army (Acquisition, Logistics and Technology)) Materiel Developer; Headquarters, Department of the Army; and U.S. Army Materiel Command**

#### **H-43. Function**

The function covered by this evaluation is the Army ORF Program.

#### **H-44. Purpose**

The purpose of this evaluation is to assist the ASA (ALT) MATDEV, HQDA, and AMC in evaluating the key internal controls listed below. It is not intended to cover all controls. HQDA MATDEV and AMC in evaluating the key internal controls listed below. It is not intended to cover all controls.

#### **H-45. Instructions**

Answers must be based on the actual testing of key internal controls (for example, document analysis, direct observation, sampling, simulation, and/or other). Answers that indicate deficiencies must be explained and the corrective action identified in supporting documentation. These internal controls must be evaluated at least once every 5 years. Certification that the evaluation has been conducted must be accomplished on DA Form 11-2 (Internal Control Evaluation Certification).

#### **H-46. Test questions**

See paragraph 8-7.

- a.* Are initial float requirements being properly developed, coordinated, documented, and funded during the fielding process?
- b.* Are float authorizations being properly computed, validated, and updated?
- c.* Are ACOM, ASCC, and DRU annual ORF utilization rates, demand satisfaction rates, and authorization requests submitted no later than the second quarter of each FY?

#### **H-47. Supersession**

This evaluation replaces the evaluation for ORF previously published in AR 750-1, dated 3 August 2017.

**H-48. Comment**

Help make this a better tool for evaluating internal controls. Submit comments to the DCS, G-4 (DALO-SMM), 500 Army Pentagon, Washington, DC 20310-0500.

**Section IX****Special Repair Authorities/One-Time Repair Authorities (Deputy Chief of Staff, G-3/5/7, U.S. Army Materiel Command)****H-49. Function**

The functions covered by this evaluation are SRAs and/or one-time repair authorities (OTRAs).

**H-50. Purpose**

The purpose of this evaluation is to assist AMC in evaluating the key internal controls listed below. It is not intended to cover all controls.

**H-51. Instructions**

Answers must be based on the actual testing of key internal controls (for example, document analysis, direct observation, sampling, simulation, and/or other). Answers that indicate deficiencies must be explained and the corrective action identified in supporting documentation. These internal controls must be evaluated at least once every 5 years. Certification that the evaluation has been conducted must be accomplished on DA Form 11-2 (Internal Control Evaluation Certification).

**H-52. Test questions**

- a.* Has a primary point of contact for SRAs and/or OTRAs been assigned?
- b.* Is the SRA and/or OTRA database being maintained with current status?
- c.* Are quarterly reports being provided?
- d.* Are SRA and/or OTRA request acted upon (approvals and disapprovals) within the specified timelines?

**H-53. Supersession**

This evaluation replaces the evaluation for specialized repair authorities previously published in AR 750-1, dated 3 August 2017.

**H-54. Comment**

Help make this a better tool for evaluating internal controls. Submit comments to the DCS, G-4 (DALO-SMM), 500 Army Pentagon, Washington, DC 20310-0500.

**Section X****Special Repair Authority (U.S. Army Materiel Command Life Cycle Management Commander and/or Maintenance Inspector)****H-55. Function**

The functions covered by this evaluation are SRA and/or OTRA.

**H-56. Purpose**

The purpose of this evaluation is to assist the AMC LCMC commander and/or maintenance inspector in evaluating the key internal controls listed below. It is not intended to cover all controls.

**H-57. Instructions**

Answers must be based on the actual testing of key internal controls (for example, document analysis, direct observation, sampling, simulation, and/or other). Answers that indicate deficiencies must be explained and the corrective action identified in supporting documentation. These internal controls must be evaluated at least once every 5 years. Certification that the evaluation has been conducted must be accomplished on DA Form 11-2 (Internal Control Evaluation Certification).

**H-58. Test questions**

See paragraph 3-13.

- a.* Are SRA/OTRA requests being processed timely?

- b.* Are requests for SRA/OTRA carefully screened on obsolescent and obsolete items?
- c.* Are maintenance operations under the SRA/OTRA monitored to assure quality, safety, and technical standards are met?
- d.* Is the AMC's SRA/OTRA database being maintained for managed items?

#### **H-59. Supersession**

This evaluation replaces the evaluation for SRA previously published in AR 750-1, dated 3 August 2017.

#### **H-60. Comment**

Help make this a better tool for evaluating internal controls. Submit comments to the DCS, G-4 (DALO-SMM), 500 Army Pentagon, Washington, DC 20310-0500.

### **Section XI**

#### **Special Repair Authorities/One-time Repair Authorities (Division Assistant Division Commander for Support/Overseas Major Command Deputy Chief of Staff, G-4)**

#### **H-61. Function**

The functions covered by this evaluation are SRAs/OTRAs.

#### **H-62. Purpose**

The purpose of this evaluation is to assist the division ADCS/overseas ACOM, ASCC, and DRU DCS, G-4 in evaluating the key internal controls listed below. It is not intended to cover all controls.

#### **H-63. Instructions**

Answers must be based on the actual testing of key internal controls (for example, document analysis, direct observation, sampling, simulation, and/or other). Answers that indicate deficiencies must be explained and the corrective action identified in supporting documentation. These internal controls must be evaluated at least once every 5 years. Certification that the evaluation has been conducted must be accomplished on DA Form 11-2 (Internal Control Evaluation Certification).

#### **H-64. Test questions**

See paragraph 3-13.

- a.* Are requests for SRA and/or OTRA being prepared with all required information/data?
- b.* Has SRA been obtained before depot repairs are performed at sustainment maintenance?
- c.* Are annual reports, which show number and costs of DLRs, performed being submitted in a timely manner?
- d.* Is workload being reported to AMC quarterly?
- e.* Has work ceased on expired SRAs?

#### **H-65. Supersession**

This evaluation replaces the evaluation for specialized repair activities previously published in AR 750-1, dated 3 August 2017.

#### **H-66. Comment**

Help make this a better tool for evaluating internal controls. Submit comments to the DCS, G-4 (DALO-SMM), 500 Army Pentagon, Washington, DC 20310-0500.

### **Section XII**

#### **Life cycle maintenance support (Headquarters, Department of the Army Materiel Developer, U.S. Army Materiel Command)**

#### **H-67. Function**

The function covered by this evaluation is life cycle maintenance support.

#### **H-68. Purpose**

The purpose of this evaluation is to assist AMC and MATDEVs in evaluating the key internal controls listed below. It is not intended to cover all controls.



## **H-69. Instructions**

Answers must be based on the actual testing of key internal controls (for example, document analysis, direct observation, sampling, simulation, and/or other). Answers that indicate deficiencies must be explained and the corrective action identified in supporting documentation. These internal controls must be evaluated at least once every 5 years. Certification that the evaluation has been conducted must be accomplished on DA Form 11-2 (Internal Control Evaluation Certification).

## **H-70. Test questions**

See chapter 6.

- a.* Is equipment being designed, developed and supported within the Army Maintenance System?
- b.* Have the top design priorities for supportability been considered during the design and development phase?
- c.* Are MATDEVs providing materiel maintenance inputs to their test and evaluation master plan; program acquisition plan; request for proposal; cost estimates; SS; RAM rational report; statement of requirements analysis; and the core determination analysis?
- d.* Is use of existing Army parts stressed in the design and acquisition of the weapon system?
- e.* Has CBM+ been considered during the design and development phase?
- f.* Are technical and equipment publications being published in electronic media such as ETMs and IETMs?
- g.* Are maintenance service kits being developed and provided to optimize delivery of services throughout the force structure?
- h.* Are MATDEVs and AMC MSCs planning, programming and budgeting for SSTS the first full FY after production ends?
- i.* Are SSTS requirements and cost estimates validated and certified?
- j.* Have the SSTS POM submissions been certified by appropriate authority?
- k.* Are post-fielding LORA or other analyses being run using actual reliability data from fielded equipment?
- l.* Is the MAC updated to reflect any changes in the LORA outcome?
- m.* Are analyses performed and documented to ensure warranties are cost effective?
- n.* Are LOs being analyzed, adjusted and published not less than every 5 years to leverage lubricant technology advances and synchronize the maintenance effort with current technology?
- o.* Is the use of contractor maintenance support being considered as part of the statement of requirements analysis during the ILS process in accordance with AR 700-127 and documented as part of the Milestone B ASARC?
- p.* Do solicitations and contracts for maintenance services require that essential quality requirements be defined, quantified, measured, and assessed during the contracted-out support process?

## **H-71. Supersession**

This evaluation replaces the previously published evaluation(s) for life cycle maintenance support previously published in AR 750-1, dated 3 August 2017.

## **H-72. Comments**

Help make this a better tool for evaluating internal controls. Submit comments to the DCS, G-4 (DALO-SMM), 500 Army Pentagon, Washington, DC 20310-0500.

## **Section XIII**

### **National Maintenance Program (DCS, G-3/5/7, U.S. Army Materiel Command)**

## **H-73. Function**

The function covered by this evaluation is the NMP.

## **H-74. Purpose**

The purpose of this evaluation is to assist the DCS, G-3/5/7 and AMC in evaluating the key internal controls listed below. It is not intended to cover all controls.

## **H-75. Instructions**

Answers must be based on the actual testing of key internal controls (for example, document analysis, direct observation, sampling, simulation, and/or other). Answers that indicate deficiencies must be explained and the corrective action identified in supporting documentation. These internal controls must be evaluated at least once every 5 years. Certification that the evaluation has been conducted must be accomplished on DA Form 11-2 (Internal Control Evaluation Certification).

#### **H-76. Test questions**

- a.* Do sources of repair possess a documented quality system?
- b.* Is the technical certification database being maintained with current status?
- c.* Are the AMC MSC quarterly reports submitted?
- d.* Is repair used as the primary SOS when unserviceable reparable are available to support repair programs?
- e.* Is the highest published national standard used as the single standard for repair for those items repaired and returned to the supply system (see this regulation for exceptions)?
- f.* Is the maintenance program precluding repair of items in long supply?

#### **H-77. Supersession**

This evaluation replaces the evaluation for NMP previously published in AR 750-1, dated 3 August 2017.

#### **H-78. Comment**

Help make this a better tool for evaluating internal controls. Submit comments to the DCS, G-4 (DALO-SMM), 500 Army Pentagon, Washington, DC 20310-0500.

### **Section XIV**

#### **Army Depot Maintenance**

#### **H-79. Function**

The function covered by this evaluation is Army Depot Maintenance.

#### **H-80. Purpose**

The purpose of this evaluation is to assist the MATDEV and the DCS, G-3/5/7, AMC in evaluating the key internal controls listed below. It is not intended to cover all controls.

#### **H-81. Instructions**

Answers must be based on the actual testing of key internal controls (for example, document analysis, direct observation, sampling, simulation, and/or other). Answers that indicate deficiencies must be explained and the corrective action identified in supporting documentation. These internal controls must be evaluated at least once every 5 years. Certification that the evaluation has been conducted must be accomplished on DA Form 11-2 (Internal Control Evaluation Certification).

#### **H-82. Test questions**

- a.* Are adequate controls in place to ensure that no more than 50 percent of depot maintenance workload will be contracted to be done by non-Federal employees?
- b.* Did MATDEVs for new systems develop a core logistics capacity at GOGO facilities with 4 years of achieving initial operational capability?
- c.* Has a depot maintenance mobilization plan been developed that includes major and secondary items, ARNG and USAR requirements, inter-Service and interdepartmental orders, and essential contracts?
- d.* Have the MATDEV (for new systems) and AMC ensured that DMPE is available to support assigned depot maintenance programs including special repair authorities?
- e.* Have maintenance activities performing depot repairs initiated procurement action sufficiently in advance of the induction schedule, taking into consideration administrative and procurement lead times?

#### **H-83. Supersession**

This evaluation replaces the evaluation for Army depot maintenance previously published in AR 750-1, dated 3 August 2017.

#### **H-84. Comment**

Help make this a better tool for evaluating internal controls. Submit comments to the DCS, G-4 (DALO-SMM), 500 Army Pentagon, Washington, DC 20310-0500.

## **Glossary**

### **Section I**

#### **Abbreviations**

**AAME**

Army Award for Maintenance Excellence

**AAR**

after action review

**ABS**

American Bureau of Shipping

**ACOD**

actual cost of damage

**ACOM**

Army command

**ADCS**

assistant division commander for support

**ADM**

acquisition decision memorandum

**ADMRU**

aviation depot maintenance round-out unit

**ADS**

aeronautical design standard

**AFSB**

Army field support brigade

**AIMS**

Airframe Inspection Maintenance and Sustainment

**AIT**

automatic identification technology

**AMC**

U.S. Army Materiel Command

**AMCOM**

U.S. Army Aviation and Missile Command

**AMEDD**

Army Medical Department

**AMMDB**

Army manpower requirements criteria maintenance database

**AMSA**

area maintenance support activity

**AMSF**

area maintenance and supply facility

**AMSS**

Army Materiel Status System

**AOAP**

Army Oil Analysis Program

**AOR**

area of operations

**APC**

acquisition program candidate

**APD**

Army Publishing Directorate

**APS**

Army pre-positioned stocks

**ARFORGEN**

Army Force Generation

**ARI**

automatic reset induction

**ARIMS**

Army Records Information Management System

**ARMT**

Automated Reset Management Tool

**ARNG**

Army National Guard

**ARSTAF**

Army Staff

**ASA (ALT)**

Assistant Secretary of the Army (Acquisition, Logistics and Technology)

**ASA (FM&C)**

Assistant Secretary of the Army (Financial Management and Comptroller)

**ASA (M&RA)**

Assistant Secretary of the Army (Manpower and Reserve Affairs)

**ASARC**

Army Systems Acquisition Review Council

**ASB**

aviation support battalion

**ASC**

U.S. Army Sustainment Command

**ASCC**

Army service component command

**ASI**

additional skill identifier

**ASIOE**

associated support items of equipment

**ASL**

authorized stockage list

**ASTM**

American Standards of Test Measurement

**AT**

annual training

**ATP**

Army techniques publication

**AVCRAD**

Aviation Classification and Repair Activity Depot

**AVIM**  
aviation intermediate maintenance

**AVUM**  
aviation unit maintenance

**AWCF**  
Army working capital fund

**BASOPS**  
base operations

**BDAR**  
battle damage assessment and repair

**BI/BW**  
Business Intelligence Business Warehouse

**BII**  
basic issue item

**BOIP**  
basis of issue plan

**BOM**  
bill of material

**C&E**  
cost and economics

**C4ISR**  
command, control, communications, computers, intelligence, surveillance, and reconnaissance

**CAISI**  
Combat Service Support Automated Information Systems Interface

**CAPDEV**  
capability developer

**CARC**  
chemical agent resistant coating

**CASCOM**  
U.S. Army Combined Arms Support Command

**CBM+**  
condition based maintenance plus

**CC**  
condition code

**CCI**  
controlled cryptographic item

**CDRT**  
capabilities development for rapid transition

**CE**  
communications-electronics

**CECOM**  
U.S. Army Communications-Electronics Command

**CFR**  
Code of Federal Regulations

**CG**  
commanding general

**CIO/G–6**

Chief Information Officer/G–6

**CITE**

Centers of Industrial and Technical Excellence

**CLS**

contractor logistics support

**CMCS**

COMSEC Materiel Control System

**CMDP**

Command Maintenance Discipline Program

**CNGB**

Chief, National Guard Bureau

**COEI**

component of end item

**COMSEC**

communications security

**CONUS**

continental United States

**COTS**

commercial off-the-shelf

**CPC**

corrosion prevention and control

**CPP**

camouflage painting pattern

**CSI**

critical safety item

**CSMS**

combined support maintenance shop

**CSS**

combat service support

**CTA**

common table of allowances

**CVC**

calibration, verification, and certification

**DA**

Department of the Army

**DA Pam**

Department of the Army pamphlet

**DCS**

Deputy Chief of Staff

**DD Form**

Department of Defense form

**DFAS**

Defense Finance and Accounting Service

**DLA**

Defense Logistics Agency

**DLH**

direct labor hours

**DLM**

Defense Logistics Manual

**DLR**

depot-level repair

**DMMW**

depot maintenance mobilization workload

**DMOPS**

Depot Maintenance Operations Planning System

**DMPE**

depot maintenance plant equipment

**DMSP**

depot maintenance support plan

**DMWD**

Depot Maintenance Workload Distribution

**DMWR**

depot maintenance work request

**DOD**

Department of Defense

**DODAAC**

Department of Defense Activity Address Code

**DODD**

Department of Defense directive

**DODI**

Department of Defense instruction

**DODM**

Department of Defense manual

**DRMO**

Defense Reutilization and Marketing Office

**DRU**

direct reporting unit

**DT**

developmental test

**EAB**

Echelon above Brigade

**ECOD**

estimated cost of damage

**ECS**

equipment concentration site

**EIR**

equipment improvement recommendation

**ERC**

equipment readiness code

**ERE**

early return equipment

**ERP**  
enterprise resource planning

**ESSC**  
Electronic Sustainment Support Center

**ETM**  
electronic technical manual

**EW**  
electronic warfare

**FAR**  
Federal Acquisition Regulation

**FDP**  
forward distribution point

**FED LOG**  
Federal Logistics Data

**FLM**  
field level maintenance

**FM**  
field manual

**FMC**  
fully mission capable

**FMR**  
Financial Management Regulations

**FMS**  
field maintenance shop

**FORSCOM**  
U.S. Army Forces Command

**FRA**  
forward repair activity

**FY**  
fiscal year

**GCSS–Army**  
Global Combat Support System–Army

**GO**  
general officer

**GOGO**  
Government-owned, Government-operated

**GPM**  
ground precautionary message

**GS**  
general schedule

**GSA**  
General Services Administration

**GSE**  
ground support equipment

**HDBK**  
handbook



**HM**

hardness maintenance

**HMMWV**

high-mobility multipurpose wheeled vehicle

**HQAMC**

Headquarters, Army Materiel Command

**HQDA**

Headquarters, Department of the Army

**HS**

hardness surveillance

**HST**

Home station training

**IA**

information assurance

**IDT**

inactive duty training

**IETM**

interactive electronic technical manual

**IEW**

intelligence and electronic warfare

**IIQ**

initial issue quantity

**ILAP**

Integrated Logistics Analysis Program

**ILS**

integrated logistics support

**IMCOM**

U.S. Army Installation Management Command

**IMI**

intensively managed items

**IMMA**

installation materiel maintenance activity

**INSCOM**

U.S. Army Intelligence and Security Command

**IOC**

initial operating capability

**IPG**

issue priority group

**ISSA**

inter-Service support agreement

**IT**

information technology

**IUID**

item unique identification

**JCS**

Joint Chiefs of Staff

**LBE**  
left behind equipment

**LCMC**  
life cycle management command

**LCSEC**  
Life Cycle Software Engineering Center

**LIDB**  
logistics integrated database

**LIN**  
line item number

**LIS**  
Logistics information systems

**LIW**  
Logistics Information Warehouse

**LMI**  
logistics management information

**LMP**  
Logistics Modernization Program

**LO**  
lubrication order

**LOGSA**  
Logistics Support Activity

**LORA**  
level of repair analysis

**LRC**  
Logistics Readiness Center

**LRU**  
line replaceable unit

**LSE**  
logistics support element

**LUP**  
low usage program

**MAC**  
maintenance allocation chart

**MAIT**  
maintenance assistance and instruction team

**MATDEV**  
materiel developer

**MATES**  
maneuver area training equipment sites

**MC**  
mission capable

**MDEP**  
management decision package

**MEC**  
maintenance engineering call

**MEDCOM**  
U.S. Army Medical Command

**MEL**  
maintenance expenditure limit

**MIL-PRF**  
military performance specification

**MM**  
maintenance module

**MMDF**  
maintenance master data file

**MMIS**  
Modification Management Information System

**MOA**  
memorandum of agreement

**MOS**  
military occupational specialty

**MOU**  
memorandum of understanding

**MPD**  
maintenance priority designator

**MPS**  
master production schedule

**MRC**  
maintenance repair code

**MRP**  
materiel requirements planning

**MSC**  
major subordinate command

**MSI**  
medical sustainment items

**MSP**  
maintenance support plan

**MTBF**  
mean time between failure

**MTBO**  
mean time between overhaul

**MTDA**  
modification table of distribution and allowance

**MTOE**  
modification table of organization and equipment

**MTTR**  
mean time to repair

**MWO**  
modification work order

**NAS**  
National Aerospace Standard

**NCO**

noncommissioned officer

**NDAA FY 98**

National Defense Authorization Act for Fiscal Year 1998

**NEL**

National Equipment Listing

**NET**

new equipment training

**NETCOM**

Network Enterprise Technology Command

**NGB**

National Guard Bureau

**NGR**

National Guard regulation

**NICP**

national inventory control point

**NIIN**

national item identification number

**NMC**

not mission capable

**NMM**

national maintenance manager

**NMO**

National Maintenance Office

**NMP**

National Maintenance Program

**NMWR**

national maintenance work requirement

**NRTS**

not repairable this station

**NSA**

National Security Agency

**NS-E**

nonstandard-equipment

**NSN**

national stock number

**NTV**

nontactical vehicle

**O-5**

lieutenant colonel

**O-6**

colonel

**OCCM**

on condition cyclic maintenance

**OCOC**

on condition oil change

**OCONUS**

outside the continental United States

**OIB**

Organic Industrial Base

**OIBCB**

Organic Industrial Base Corporate Board

**OIBEC**

Organic Industrial Base Execution Council

**OMA**

operation and maintenance, Army

**OP-29**

Depot Maintenance Requirements Plan

**ORF**

operational readiness float

**OSD**

Office of the Secretary of Defense

**OT**

operational test

**OTR**

one-time repair

**OTRA**

one-time repair authority

**PB-45**

budget exhibit depot maintenance plan

**PBL**

performance-based logistics

**PCB**

printed circuit board

**PDTE**

predeployment training equipment

**PEO**

program executive officer

**PLL**

prescribed load list

**PM**

program manager

**PMCS**

preventive maintenance checks and services

**PoF**

physics of failure

**POM**

program objective memorandum

**PPBE**

planning, programming, budgeting, and execution

**PPSS**

post-production software support

**PQDR**

product quality deficiency report

**PWS**

performance work statement

**QDR**

quality deficiency report

**RAM**

reliability, availability, and maintainability

**RBOM**

remanufacturing bill of material

**RC**

reserve component

**RCF**

repair cycle float

**RCM**

reliability-centered maintenance

**RCOP**

reset common operating picture

**RCS**

report control symbol

**RCT**

repair cycle time

**RECAP**

recapitalization

**RG**

readiness goal

**RO**

requisitioning objective

**RPD**

reset predeployment

**RRS-A**

Records Retention Schedule-Army

**RSC**

regional support center

**RSD**

reset start date

**SAE**

Society of Automotive Engineers

**SAMS-1E**

Standard Army Maintenance System-Level One Enhanced

**SAMS-2E**

Standard Army Maintenance System-Level Two Enhanced

**SAMS-E**

Standard Army Maintenance System-Enhanced

**SAMS-IE**

Standard Army Maintenance System-Installation Enhanced

**SASMO**  
Sustainment Automation Support Management Office

**SB**  
supply bulletin

**SDC**  
sample data collection

**SECDEF**  
Secretary of Defense

**SEC-Lee**  
Software Engineering Center-Lee

**SES**  
senior executive service

**SF**  
standard form

**SIGINT**  
signals intelligence

**SIM**  
serialized item management

**SKOT**  
sets, kits, outfits

**SMA**  
Special Manufacturing Authority

**SMSA**  
Satellite Maintenance Support Activity

**SOP**  
standard operating procedure

**SOR**  
source of repair

**SOUM**  
safety of use message

**SRA**  
special repair authority

**SS**  
supportability strategy

**SSA**  
supply support activity

**SSN**  
standard study number

**SSTS**  
sustainment systems technical support

**STS**  
systems technical support

**TACOM**  
U.S. Army Tactical Command

**TAMMS**  
The Army Maintenance Management System

**TAMP**

Theater Aviation Maintenance Program

**TASMG**

Theater Aviation Sustainment Maintenance Group

**TAT**

turnaround time

**TB**

technical bulletin

**TCX**

tactical computer exchange

**TDA**

table of distribution and allowances

**TI**

technical inspection

**TIPS**

Tool Improvement Program Suggestions

**TLRT–M**

total logistics response time–maintenance

**TM**

technical manual

**TMDE**

test, measurement, and diagnostic equipment

**TOE**

table of organization and equipment

**TRADOC**

U.S. Army Training and Doctrine Command

**TSG**

The Surgeon General

**UIC**

unit identification code

**UII**

unique item identifier

**UIT**

unique item tracking

**ULLS–A(E)**

Unit Level Logistics System–Aviation (Enhanced)

**UME**

unit maintained equipment

**UND**

urgency of need designator

**USAF**

U.S. Air Force

**USAFMSA**

U.S. Army Force Management Support Agency

**USAMC**

U.S. Army Materiel Command



**USAMMA**

U.S. Army Medical Materiel Agency

**USAOS**

U.S. Army Ordnance School

**USAR**

U.S. Army Reserve

**USARC**

U.S. Army Reserve Command

**USC**

United States Code

**UTES**

unit training equipment site

**VI**

visual information

**VRLA**

Valve Regulated Lead Acid

**VSAT**

very small aperture terminal

**WBS**

work breakdown structure

**WebLIDB**

Web logistics integrated database

**Section II****Terms****Adjust and/or align**

To maintain or regulate an item, within prescribed limits, by bringing it into proper position or by setting the operating characteristics to specified parameters.

**Administrative deadline**

Procedure for taking equipment out of service if the commander or field-level maintenance officer determines it is necessary. Administratively deadlined equipment is FMC per the applicable PMCS tables, AR 385–10, and is reported FMC per AR 700–138 and DA Pam 750–8, but is not used or dispatched. The following conditions are examples of typical situations (not an all-inclusive list) when administrative deadline of equipment would apply:

- a. Operation would result in a violation of published federal, DA, local commander, or host-nation safety regulations if the equipment were dispatched or used.
- b. Pending completion of an official investigation.
- c. Pending transfer, turn-in, or disposition instructions.
- d. Pending inspection for a safety deficiency detailed under a SOUM.
- e. Pending receipt of oil resample or special sample results.
- f. Pending completion of a required service.

**After operation checks**

PMCS performed per the TM and/or 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 and/or crew to correct must be corrected immediately. Faults above the operator and/or crew-authorized level of repair are immediately reported to field maintenance for correction prior to start of the next mission. Field maintenance performs unscheduled correction required by reports from operator and/or crew and performs required services per TM and/or ETM 20 series to maintain the equipment to the TM 10 series and TM 20 series PMCS maintenance standard.

**Ammunition**

All Army-adopted Class V items.

**Ammunition peculiar equipment**

Equipment used in depot to perform maintenance, surveillance, demilitarization, or preservation/packaging work on ammunition.

**Area maintenance support activity**

Provides, on an area basis, technical assistance and unit maintenance support beyond the supported units' capabilities to accomplish during scheduled training assemblies. AMSA will be designated as follows:

- a. AMSA(G): Maintenance support for USAR ground equipment, other than aircraft, medical, and watercraft.
- b. AMSA(W): Support for USAR watercraft.
- c. AMSA(G/W): Support for USAR ground and watercraft.

**Army aviation flight activity**

An ARNG TDA activity that provides AVUM level functions in support of ARNG aviation assets.

**Army aviation operating facility**

An ARNG TDA activity that provides AVUM level functions.

**Army aviation support facility**

An ARNG TDA maintenance activity that provides AVUM and AVCRAD-authorized AVIM level functions to support ARNG aviation assets.

**Army Oil Analysis Program**

HQDA directed program to enhance crew safety, improve equipment readiness and reduce the consumption of resources through application advanced diagnostic technology to detect premature materiel degradation and support failure trend analysis.

**Army Oil Analysis Program evaluation criteria**

Factors, including quantitative metal wear expressions, against which the results of oil analysis are compared to determine the condition of a component or lubricant and the necessity for maintenance.

**Assembly**

A combination of components and/or modules and parts used as a portion of, and intended for, further installation in an equipment end item (for example, engine, transmission, rotor head, electronic chassis, rack, and/or cabinet).

Associated support items of equipment

An end item required to support the operation, maintenance, and/or transportation of a BOIP item. ASIOE is listed on the BOIP of the item it supports. ASIOE has its own LIN and is separately documented into TOE and/or Vertical—The Army Authorization and Documents System.

**Automatic test equipment**

Equipment designed to automatically evaluate the degree of unit under test performance degradation. It may be used to perform fault isolation of unit under test malfunctions.

**Available days**

The days equipment is on hand in an organization and fully able to do its mission; the time that equipment is FMC.

**Aviation classification and repair activity depot**

An ARNG TDA maintenance activity that provides AVIM and authorized depot-level functions.

**Aviation support facility**

TDA activity of a USARC that exercises centralized control and assures proper use and operation of USAR aviation assets, providing aviation training and logistics support beyond the capability of the supported units during training assemblies.

**Battle damage assessment and repair**

A wartime procedure to rapidly return disabled equipment to operational condition by expediently repairing, substituting, fabricating, short-cutting, bypassing, cannibalizing, or jury-rigging components to restore the minimum essential systems required for the support of a specific combat mission or to enable equipment to self-recover.

**Before operation checks**

Checks performed by the operator and/or crew per TM and/or ETM 10 series PMCS tables to identify faults that will prevent performance of the mission and must be corrected prior to start of the mission. All faults are corrected or, if above operator and/or crew authorized level of repair, are reported to field maintenance before the mission.

**Built-in test**

A test approach using built-in test equipment or other integral hardware designed into equipment or components under test to self-test and fault diagnose all and/or part of the equipment or component under test.

**Built-in test equipment**

Any identifiable, removable device that is part of equipment or components under test that is used for the express purpose of testing.

**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**

The authorized removal of components from materiel designated for disposal. Cannibalization supplements supply operations by providing assets not immediately available through the Army supply system. Costs to cannibalize, urgency of need, and degradation to resale value of the end item should be considered in the determination to cannibalize.

**Capability**

A measure of operational performance to quantify contribution to the warfight. Measure consists of an evaluation of range, lethality, and effectiveness.

**Combined support maintenance shop**

An ARNG TDA activity that provides field and sustainment levels of maintenance on Federal surface equipment issued to the ARNG.

**Commercial activities**

Army-operated and Army-managed organizations that provide products or services that may be obtained by contract with private commercial sources. Commercial activities may be identified with an organization or a type of work, but must be separate facilities that can perform either in house or by contract. Further, the commercial activities must provide products and services regularly needed. Commercial activities will not provide products and services that will be used only once, for a short time, or for support of a special project.

**Communications security logistics support unit**

Field and/or sustainment maintenance activity for the maintenance of COMSEC equipment.

**Compliance**

Compliance refers to the first phase of the process to qualify national maintenance providers. A national SOR is compliant once the NMM determines it has a documented quality management system in place. Continued compliance is determined by annual surveillance audits.

**Component and/or module**

A combination of parts mounted together during manufacturing that may be tested, replaced as a unit, or repaired (for example, starter, generator fuel pump, and PCB). The term "module" is normally associated with electronic equipment.

**Condition based maintenance plus**

CBM+ is a set of maintenance processes and capabilities derived primarily from real-time assessment of weapon system condition obtained from embedded sensors and/or external test and measurements using portable equipment.

**Configuration**

The functional/physical characteristics of hardware and/or software set forth in technical documentation and achieved in a product.

**Configuration status accounting**

Recording and reporting of information needed to manage the configuration of a system or item effectively, including the approved technical documentation as set forth in specifications, drawings, and associated lists and documents referenced therein; the status of proposed changes to a configuration; and the implementation status of approved changes.

**Contract maintenance**

Any materiel maintenance operation performed under contract by commercial organizations (including the original manufacturers of the materiel).

**Controlled exchange**

Removal of serviceable parts, components, and assemblies from unserviceable, but economically repairable, equipment and their immediate reuse in restoring a like item of equipment to a combat MC condition.

**Critical characteristics**

Features (tolerance, finish, material composition, manufacturing, assembly, or inspection process) of a product, material, or process that, if nonconforming or missing, could cause the failure or malfunction of the item.

**Critical safety item**

Any part, assembly, subassembly, installation procedure, or production process that would have hazard probability level A, B, C, or D chance of resulting in an unsafe condition if not in accordance with design data or quality requirements.

**Deferred maintenance**

Authorized delay of maintenance and/or repair of uncorrected faults.

**Deficiency**

A fault or problem that causes equipment to malfunction. Faults that make the equipment NMC are deficiencies.

**Department of Defense activity address code**

A six-digit code that gives a DOD delivery address for supplies and equipment.

**Depot maintenance**

Materiel maintenance requiring major overhaul or a complete rebuilding of parts, assemblies, subassemblies, and end items, including the manufacture of parts, modifications, testing, and reclamation as required. Depot maintenance serves to support lower categories of maintenance by providing technical assistance and performing that maintenance beyond their responsibility. Depot maintenance provides stocks of serviceable equipment because it has available more extensive facilities for repair than are available in lower maintenance activities. Depot maintenance includes all aspects of software maintenance.

**Depot maintenance activity**

An industrial-type facility established to perform depot maintenance on weapon systems, equipment, and components. The term includes DOD installations and commercial contractors.

**Depot maintenance capability**

The availability of resources (facilities, tools, test equipment, drawings, technical publications, training, maintenance personnel, engineering support, and spare parts) required to carry out a specified depot maintenance task.

**Depot maintenance capacity**

This is the amount of DLH (maintenance man-hours) that can be applied within a specified industrial facility or other entity during a 40-hour week.

**Depot maintenance core capability**

Depot maintenance core is the capability maintained within defense depots to meet readiness and sustainability requirements of the weapon systems that support the JCS 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.

**Depot maintenance public private partnership**

A public-private partnership for depot maintenance agreement may exist between an organic depot maintenance activity and one or more private industry or other entities to perform work or use facilities and equipment. Program offices, inventory control points, and materiel, systems, and/or logistics commands may also be parties to such agreements or be designated to act on behalf of organic depot maintenance activities.

**Depot maintenance work requirement**

A maintenance serviceability standard for depot-level reparables designated for repair and return to AWCF stock. It prescribes the scope of work to be performed on an item by organic depot maintenance facilities or contractors, and/or 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, quality assurance discipline, and other essential factors to ensure that an acceptable and cost-effective product is obtained.

**Depot maintenance workload**

A specific depot repair requirement for a specific item to be repaired. Units of measure include man-hours, work years, costs, and sale prices.

**Depot-level reparable**

A Class IX item with a MRC of D or L.

**Discard and replace**

Procedure to follow if selected items are designated as nonrepairable and become inoperable.

**During operations checks**

Checks performed by the operator and/or crew per the TM and/or ETM 10 series PMCS tables that monitor operation of equipment and identify faults in equipment performance during the mission. Faults that render the equipment NMC require immediate correction or authorization for limited operation using circle x status condition. All other faults are corrected (if above operator and/or crew authorized level of repair to correct) or reported during or after the mission.

**Early return equipment**

Unit equipment redeployed from the deployed area of operations prior to the unit's established available load date.

**Electromagnetic environmental effect**

Any failure (or serious effect) apparently caused by, or related to, radio waves, electromagnetism, voltage or current pulses (static discharge, lightning, electromagnetic pulse, or transient electricity), from whatever source.

**End item code**

Data element that identifies a part to a specific end item. It is a three-position alphanumeric code that uses the full English alphabet and the numbers 2 through 9 and is structured so that each position of the code has a specific meaning.

**Equipment category code**

A two-position alphabetical code. The first letter identifies the primary category of equipment. The two-position equipment category code is used in ADP systems to produce the complete description of an item of equipment by make, model, noun nomenclature, line number, and NSN if desired or required. It is also entered in specified blocks or positions on manually produced data source documents.

**Equipment concentration site**

Area for support of USAR and other authorized units during IDT, AT, and mobilization; includes a maintenance branch.

**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 (EM 0007 FED LOG) but may require other end items to perform a mission (for example, tank, truck, radio, generators, and machine guns).

**Equipment improvement recommendation**

Written reports on an SF 368 to report equipment faults in design operations and manufacturing of new equipment received that is below standard quality in workmanship under AR 702-7 and AR 702-7-1.

**Equipment performance data**

Historical information relating to the maintainability, reliability, and supportability characteristics of systems, subsystems, and components of weapons and equipment end items accumulated during their operational application or tests simulating actual operations.

**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.

**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.

**Field maintenance**

Field maintenance is the first operation of the Army Maintenance System. Field maintenance is characterized by the performance of maintenance tasks "on system" in a tactical environment using trained personnel, tools, and TMDE. Field maintenance is typically operator and/or crew maintenance and repair and return to user maintenance operations.

**Field maintenance activity**

A USAR and/or ARNG activity that provides field maintenance for Federal surface equipment issued to supported units.

**Field maintenance subactivity**

A USAR and/or ARNG field-level maintenance sub facility established to supplement limited available workspace authorized a parent FMS or geographic separation of supported units.

**Fleet management**

Fleet Management is an overarching, long term approach for life cycle support of a weapon system or a group of weapon systems. Fleet Management includes iterative assessments of fleet operating/operational tempo/CBM+ data (operation tempo), acquisition sustainment and budgeting, total cost of ownership, maintenance/supply history and forecasting, and RECAP/Reset/Procurement/Upgrade/Divestiture decisions affecting economic useful life, readiness, and in sustaining the Army acquisition objective.

- a. Fleet management includes a range of functions and triggers such as new procurement, modernization, maintenance through the implementation of recapitalization and the resetting of assets, Service Life Extension Programs, sustainment support and end of lifecycle management based on availability and readiness.
- b. Fleet density includes total major end items, secondary items (SI), and critical ancillary equipment/commodities required for system of systems performance.
- c. Fleet Management allows leaders to better manage equipment investment, improving efficiency and productivity, and reduces the overall costs associated with LCSP while supporting operational, training and other mission requirements.

**Fleet planning**

Fleet plans provide a common operational picture for all impacted stakeholders of a weapon system's age, capability (protection/payload/performance), and affordability. Fleet plans may involve proactive plans for independent or concurrent efforts to buy new assets (Procure), modernize an existing fleet (Upgrade), increase maintainability, reliability, supportability, and/or survivability (Improve), repair assets to TM 10/20 (reset), repair assets to zero-miles/zero-hours (RECAP), or remove assets from the Army inventory (Divest).

**Focused recapitalization**

Rebuilding and upgrading systems to the extent determined necessary through detailed engineering and economic analyses.

**Forward support maintenance**

Maintenance oriented toward quick turnaround to the user in order to maximize combat time by minimizing repair and evacuation time.

**Full recapitalization**

Rebuilding and upgrading systems to the extent required to meet the recapitalization standard.

**Fully mission capable**

Systems and equipment that are safe and have all mission-essential subsystems 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/ETM XX–10 and XX–20 series PMCS tables and AR 385–10 provisions that apply to the vehicle and/or system or its sub-system required by AR 700–138. The terms ready and/or available and FMC refer to the same status: equipment is on hand and able to perform its combat missions.

**General purpose test, measurement, and diagnostic equipment**

TMDE that is used or possesses the potential to be used without significant modifications for test, measurement, and diagnosis of a range of parameters for two or more items of equipment or systems.

**General support forces**

Training, logistics, and other support activities of the CONUS base; field activities; administrative headquarters and forces provided for peacetime-peculiar activities. Units/activities included in general support forces do not report status/readiness under AR 220–1. They are identified in DA Force Accounting System by a three-position force planning code beginning with a C.

**Go/No–Go (system)**

Condition or state of operability of a system that can have only two parameters:

- a. Go: Functioning properly.
- b. No-go: Not functioning properly. Such conditions are displayed using meters and/or visual or audible alarms, sensors, or similar mechanisms.

**Hardness assurance**

Processes, procedures and methodologies applied in the preproduction and production phases of the acquisition cycle to achieve nuclear hardness.

**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.

**Home station training equipment**

A pool of theater-unique equipment specifically authorized by HQDA to be pre-positioned at selected installations to support training requirements for equipment that would otherwise not be available to deploying units. HST provides deploying units with standard and nonstandard equipment for individual and collective training that duplicates the equipment they will use in the theater.

**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**

To determine the serviceability of an item by comparing its physical, mechanical, and/or electrical characteristics with established standards through examination.

**Installation materiel maintenance activity**

TDA maintenance organization set up to provide field and/or sustainment maintenance support for troop and/or installation operating equipment. An IMMA operates at one or more fixed locations.

**Integrated logistics support**

A composite of all the support considerations necessary to ensure the effective and economical support of a system for its life cycle. ILS is an integral part of all aspects of system acquisition and fielding. The principal elements of ILS related to the overall system life cycle are contained in AR 700–127.

**Integrated materiel manager**

The materiel manager responsible for the execution of assigned materiel management functions for selected items or selected Federal supply classification classes.

**Inter-Service maintenance support**

Maintenance operations performed by the organic maintenance capability of one military Service in support of another military Service.

**Item unique identification**

A system of marking items delivered to the DOD with UIIs that have machine-readable data elements to distinguish an item from all other like and unlike items. UIIs assigned to items are registered in the DOD IUID Registry.

**Left behind equipment**

Maintenance significant items on the unit property book that remains at home station after the unit deploys. LBE is accounted for and sustained at home station until the unit returns or is redistributed in support of HQDA equipping priorities, or as otherwise directed by the ACOM, ASCC, or DRU to which it is assigned. The ASC assumes accountability and responsibility for the equipment and ensures that it is properly accounted for and maintained to support the ARFORGEN process.

**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. Standard are assigned by the AMC and are listed in EM 0007 FED LOG.

**Line replaceable unit**

A combination of components and/or modules installed in an item of equipment or system that is replaceable in the operational environment (that is, under field or combat conditions). An LRU may be a PCB, black box, component, major component, alternator, carburetor, avionics, tank engine, and road wheel assembly installed weapons. This repair by replacement is normally accomplished as far forward as possible by unit (organizational) maintenance personnel.

**Logistic Readiness Center**

The LRC provides global logistical support to individual Soldiers and units assigned to or mobilize units. The LRC manages installation supply, maintenance, and transportation to include food service, ammunition supply, clothing issue facilities and clothing initial issue points, hazardous material, bulk fuel, personal property and household goods, passenger travel, nontactical vehicles, rail, and garrison equipment.

**Logistics Information System**

Automated systems used to communicate with other units on vertical and horizontal flow of logistics and maintenance information and status.

**Maintainability**

Characteristics of design that inherently provide for the retention of and/or restoration of a specified condition within a given period of time when maintenance is performed by prescribed procedures and resources.

**Maintenance**

All actions necessary for retaining an item in or restoring it to a specified condition.

**Maintenance capability**

Availability of those resources—facilities, tools, TMDE, drawings, technical publications, trained maintenance personnel, engineering and management support, and repair parts—required to perform maintenance operations.

**Maintenance capacity**

A quantitative measure of maintenance capability usually expressed as the number of man-hours or direct labor that can be applied within a specific maintenance activity or shop during a 40-hour week (one shift, 5 days).

**Maintenance concept**

The maintenance concept briefly defines 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 parts explosion**

A process/system that provides the information necessary to accomplish the functional mission required in forecasting repair parts requirements for depot-level, in-house, contract, and cross-service maintenance programs worldwide. This process also provides data to be used in computing supply central studies and planning depot-level maintenance.

**Maintenance significant item and/or materiel**

An end item, assemblage, component, or system intended for issue to the Army in the field that will require corrective maintenance services on a recurring basis. End items, assemblages, components, or systems that require maintenance while in storage; generally, these are LINs contained within the Army MMDF.

**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.

**Maintenance support team**

A team formed from the resources of a maintenance activity, organization, or unit and specifically tailored to provide maintenance support to a designated unit or operation for specified tasks.

**Maintenance technician**

Full-time technician normally having dual status as a member of a USAR unit; military technician assigned to a USAR TDA maintenance activity.



**Major assembly**

Separately identified by type, model, and series and assigned item identification 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 and/or PMs. For non-PEO and/or PM-managed systems, other MATDEVs include AMC, U.S. Army Information Systems Command, INSCOM, Chief of Engineers, TSG, and Strategic 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.

**Mean time between failure**

A basic measure of reliability. The average number of failures of a specific item occurring during a specified time interval.

**Mean time to repair**

A basic measure of maintainability. The sum of corrective maintenance times at any specific level of repair, divided by the total number of failures within an item repaired at that level, during a particular interval under stated conditions.

**Medical equipment (including dental and veterinary items)**

Consists of devices used in the medical diagnosis, therapy, and treatment of injury or disease. This equipment consists primarily of Federal Supply Catalog 6500 items that are standardized by the Defense Medical Standardization Board and are procured by the appropriate acquisition agency for TSG to implement health service support for the Army. It also consists of similar commercial, nonstandard items, approved by the Food and Drug Administration and marketed as medical devices, used to provide state-of-the-art patient care. The equipment is maintained and repaired by trained Biomedical Equipment Specialists.

**Medical standby equipment program**

Medical assets used in support of critical health care equipment; includes end items, components, or assemblies used to provide supported activities with serviceable items to replace unserviceable, economically repairable items.

**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.

**Mobile contact team**

USAR field and sustainment maintenance personnel and AMSA and/or ECS maintenance technicians who visit units to provide technical assistance, make inspections, and perform maintenance when this procedure is more economical than transporting equipment or personnel to the activity.

**Mobilization and training equipment site**

An ARNG TDA maintenance facility which, when collocated with a CSMS, provides full-time field support to ARNG equipment assigned to the site. When not collocated, MATES provide field and sustainment support to equipment and units assigned.

**Modernization**

Modernization is the development and/or procurement of new systems with improved warfighting capabilities. The Army's recapitalization effort does not encompass modernization.

**Module**

An assembly containing a complete self-contained circuit or subcircuit. It may consist of a single 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.

**National maintenance manager**

The CG, AMC is designated as the NMM and as such is responsible for implementing the NMP.

**National Maintenance Program**

The NMP supports the Army's strategy to move to a centrally coordinated and controlled, repair-based logistics system. Distribution-based maintenance operations are identified as: operator and/or crew maintenance, field maintenance, and sustainment maintenance (formerly known as national maintenance). The CG, AMC, as the NMM for the Army, is responsible for sustainment maintenance operations. Sustainment maintenance consists of tactical, installation and depot activities and is characterized by repair to a single standard, that is, the national standard, and return to stock. The primary focus is sustainment readiness.

**National Maintenance Program repair standard**

A NMP repair standard is the standard recognized as the single Army sustainment standard for a reparable NSN. It is defined as the highest published standard and as such may be a DMWR, a NMWR, an AMCOM engineering directive, a TM, a commercial manual, or a scope of work. It is the single standard recognized by the item manager as the sustainment repair standard.

**National maintenance work requirement**

A maintenance serviceability standard for field-level reparables designated for repair and return to AWCF stock. It prescribes the scope of work to be performed on an item by organic depot maintenance facilities, certified non-depot national providers, or contractors; types and kinds of materiel to be used; and quality of workmanship. The NMWR also addresses repair method, procedures and techniques, modification requirements, fits and tolerances, equipment performance parameters to be achieved, quality assurance discipline, and other essential factors to ensure that an acceptable and cost effective product is obtained.

**Nonavailable days**

The number of days the equipment was not able to do its mission; the time the equipment is NMC. This term is used on DA Form 2406 to rate equipment's ability to do its combat or combat support job.

**Not mission capable**

A materiel condition indicating that equipment cannot perform any one of its combat missions. NMC is divided into NMC maintenance or NMC supply.

**Not mission capable maintenance**

Equipment that cannot perform its combat mission because of maintenance work underway or needed.

**Not mission capable supply**

Equipment that cannot perform its combat mission because of maintenance work stoppage due to supply backorders.

**Off-site maintenance**

Maintenance authorized to be performed by designated maintenance facilities not located where the equipment is operated.

**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.

**On condition oil change**

An oil change directed by the AOAP laboratory as a result of diagnostic test findings relative to the serviceability of the oil and its lubricating capability.

**Onsite maintenance**

Maintenance authorized to be performed where the equipment is operated.

**Operational readiness float**

A DA authorized quantity of selected class VII and VIII end items maintained at support maintenance activities and accounted for on the activity's property book. The support maintenance activity commander authorizes the exchange of ORF assets to supported activities when repair of like items from supported activities cannot be accomplished in time to meet maintenance readiness objectives. Support maintenance activities accomplish this by simultaneously transferring the serviceable ORF for the supported unit's repairable asset. The goal of ORF is to maintain established readiness levels at the battalion level during peacetime.

**Operator and/or crew maintenance**

Operator and/or crew maintenance is the first and most-critical operation of the Army Maintenance System. It is the cornerstone of Army maintenance and starts with the operator and/or crew performing PMCS using the applicable TM 10 series. The before and during-PMCS concentrate on ensuring equipment is FMC. Maintenance operations normally assigned to operator and/or crew include the following:

- a. Performance of PMCS.
- b. Inspections by sight and touch of accessible components per the TM 10 series and condition based maintenance indicators or instrumentation.
- c. Lubrication, cleaning (including corrective actions to repair corrosive damage), preserving (including spot painting), tightening, replacement, and minor adjustments authorized by the MAC.
- d. Limited diagnosis and fault isolation as authorized by the MAC. This requires appropriate resources on-board the equipment or system to perform these tasks.
- e. Replacement of combat spares (unserviceable parts, modules, and assemblies) as authorized by the MAC and carried on board the equipment or system.

**Overhaul**

Overhaul is maintenance that restores equipment or components to a completely serviceable condition with a measurable (expected) life. This process involves inspection and diagnosis according to the DMWRs, NMWRs, or similar technical directions that identify components exhibiting wear and directs the replacement or adjustment of those items in accordance with the applicable technical specifications.

**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).

**Physical property tests**

Analytical tests of used oil samples to detect oil property changes resulting from changing equipment conditions or maintenance practices.

**Possible days**

The number of calendar days an item was on hand on the property book during the DA Form 2406 report. For an item received during the reporting period, count the first day it was on hand as a whole possible day. Do not count the last day an item is on hand (the day you lose it from your property book) as a possible day.

**Precombat checks**

Essential functional and safety checks performed by the operator/crew per the system's precombat checklist to ensure the system can perform its warfighting mission. Faults that will prevent the performance of the mission must be corrected prior to the start of the mission. All other faults are corrected or, if above operator/crew authorization to correct, reported during or after the mission.

**Predeployment training equipment**

A pool of standard Army and non-standard equipment, pre-positioned at select installations to support predeployment training that replicates the equipment units require to accomplish its deployed mission. PDTE is low density, high demand, theater specific equipment not available on the installation or determined unavailable for hand receipt or lateral transfer from another unit or installation to support training requirements for 90 days or less.

**Preliminary source of repair decision**

The SOR decisions for the system and each subsystem scheduled for depot repair/overhaul as developed by the MATDEV as soon as the system and subsystems are developed enough to conduct an SOR analysis and make analysis-based decisions. This will be the SOR decision used for planning purposes until Milestone C, when the MSC assumes the SOR decision responsibility.

**Preventive maintenance**

All actions performed in an attempt to retain an item in a specified condition by providing systematic inspection, detection, and prevention of incipient failures.

**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 ETM XX–10 and XX–20 series.

**Qualification**

Qualification refers to the NMP process for certifying sources of repair as national maintenance providers. This process has two parts: compliance and technical certification. All sources of repair must be compliant. To be compliant, an SOR must demonstrate a documented quality management system. For each component for which the national standard is a DMWR or NMWR, the SOR must pass a technical certification. The technical certification validates that the SOR possesses the necessary facilities, tools, TMDE, skills, and manpower required for the repair. A technical certification is not required for components repaired to TM standard (see qualified national provider).

**Qualified national provider**

A qualified national provider is an SOR that possesses a documented quality management system and the necessary facilities, tools, TMDE, skills, and manpower required to repair a specific component(s) to the national standard. Qualified national provider qualification is required before facilities may initiate national maintenance repairs. Exceptions may only be granted by the NMM.

**Readiness**

The capability of a unit and/or formation, ship, weapon system, or equipment to perform the mission or functions for which it is organized or designed.

**Rear detachment equipment**

Nondeploying equipment that is accounted for on the unit's property book by rear detachment personnel.

**Rebuild**

Rebuild is maintenance that restores the system to a like-new (near zero time/zero mile) condition in appearance, performance, and life expectancy. It inserts new technology where practical to improve reliability and maintainability. The result of a recapitalization rebuild is a system with the same model and a new life.

**Recapitalization**

Recapitalization is the rebuild and selected upgrade of currently fielded systems to ensure operational readiness and a near zero time/zero mile system.

**Recapitalization standard**

Recapitalization standard is near zero time/zero miles. Near zero time standard means that selected components within the system will be replaced with new items or items overhauled to NMP repair standards, which is overhaul with a measurable (expected) life. Obsolete parts will be replaced and selected technology insertions will be made. For rebuild, near zero time/zero miles standard includes technology insertion and results in same model new life. For selected upgrade, near zero time/zero mile includes technology insertion and results in a new model-new life.

**Recapitalization through spares**

Replacement of components as they wear out with recapitalized components.

**Regional maintenance center**

A CE field and/or sustainment maintenance activity with fixed shops and contact teams that are managed by ASC.

**Release action**

An order rescinding a suspension or restriction. It puts materiel back in use or releases it from restriction(s). See TB 9–1300–385 for more information.

**Reliability-centered maintenance**

A logical discipline for developing a scheduled-maintenance program that will realize the inherent reliability levels of complex equipment at minimum cost.

**Repair**

Restoration or replacement of parts and/or units to maintain efficient operating conditions.

**Repair cycle float**

An additional quantity of selected end items or major components of equipment authorized for stockage at the wholesale supply system to replace like items of equipment withdrawn from using activities for scheduled depot maintenance or, in the case of the aircraft, the depot maintenance of crash-damaged equipment. This float is primarily used to extend the economic service life of selected items of Army materiel by providing for their depot maintenance on a timely basis without detracting from the materiel readiness of using activities.

**Repairable item**

An item that can be restored to perform all of its required functions by corrective maintenance.

**Reparable**

Class IX secondary items that carry a MRC of D, F, H, or L.

**Replace**

Replace is defined as removal of consumable and/or repairable unserviceable item and/or component, and installation of a serviceable item and/or 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 to restore equipment to a desired level of combat capability commensurate with a unit's future mission. Reset reverses the effects of combat stress on equipment.

**RESET**

When viewed in all capital letters, RESET refers to the Army imperative that will systematically restore deployed units to an appropriate level of equipment, Soldier, and Family readiness in preparation for future deployments and contingencies.

**Restriction**

An order placing special working limits on materiel. The limits are set for safety or because of degraded performance.

**Retail inter–Service support**

Support accomplished at the post, installation, and base level and between operating commands with resources that are available to the installation commander.

**Sample data collection plan**

An SDC planning document prepared by the SDC proponent agency to identify required resources, sampling methodology, objectives, and anticipated benefits.

**Sample Data Collection Program**

An integrated field-data system designed to collect, process, analyze, report, follow-up, and manage engineering, maintenance, and supply data in support of selected equipment. This equipment can be currently in production/fielded, training requirements, and other logistics programs.

**Satellite material maintenance activity**

A maintenance activity geographically removed from its parent installation. A satellite material maintenance activity is authorized equipment maintenance mission to provide economical and timely support maintenance to units and activities whose parent installation cannot meet their needs.

**Scheduled preventive maintenance checks and services**

Checks and services performed by unit maintenance personnel with assistance from the operation and/or crew per the TM and/or ETM XX–10 and XX–20 series PMCS tables and lube orders. Some equipment also requires scheduled PMCS tasks to be performed by field personnel per the equipment TM and/or ETM XX–30 series. All equipment faults are corrected or, if above the unit maintenance level authorization (per MAC) to correct, job ordered to field maintenance. Deferred maintenance is completed during the scheduled service. Upon conclusion of the service, equipment should meet the TM and/or ETM XX–10 and XX–20 series maintenance standards.

**Selected upgrade**

Selected upgrade rebuilds the system and adds warfighting capability improvements that address capability shortcomings. The result of a recapitalization selected upgrade is a system with a new model and a new life and improved warfighting capability.

**Serious defect (applies to ammunition)**

Defect resulting from bad design, manufacturing, handling, or storage that may cause malfunctions when ammunition is handled or fired.

**Service life surveillance**

Post-production inspection, test, and analysis activity that verifies the actual condition of items after periods of use or storage.

**Shop replacement unit**

A component and/or module installed in an end item of equipment, system, or LRU that is replaceable only in a repair facility (shop environment) designated in the applicable MAC.

**Shortcoming**

A fault that requires maintenance or supply action on a piece of equipment but does not render equipment NMC.

**Special mission alteration**

A materiel change, normally of a temporary nature, required for the accomplishment of a special mission.

**Special purpose alteration**

Materiel changes authorized in appropriate TMs to enable the operation and use of equipment for specific climatic or geographic conditions.

**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.

**Spectrometric analysis**

A method to determine the concentration of various chemical elements in an oil sample by means of spectroscopy, primarily to detect the presence of abnormal amounts of wear metal that may indicate the potential failure of a component.

**Subshops**

Sub-elements of AMSAs, CSMSs, ECSs, or organizational maintenance sub-shops established when the density of equipment is sufficient to make such an operation cost effective.

**Substitute item**

An item authorized issue instead of, or in place of, an authorized standard item of like nature and quality. EM 0007 FED LOG identifies items and procedures for making substitutions.

**Subsystem**

A separately authorized item issued or intended to work with other items to form an operational unit/system.

**Support equipment**

All ancillary and associated equipment (mobile or fixed) required to separate and support a materiel system. This includes ASIOE 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. The following elements of ILS constitute the support system: support and test equipment, supply support, transportation and handling, technical data, facilities, and trained personnel. The other elements of ILS are the means by which the support system is developed and implemented.

**Supportability**

A measure of impacts to the logistical system consisting of such things as an evaluation of reliability, sustainment costs, and number of configurations.

**Surge**

The act of expanding an existing depot maintenance repair capability to meet increased requirements by adjusting shifts; adding skilled personnel, equipment, spares, and repair parts to increase the flow of repaired or manufactured materiel to the using activity; or for serviceable storage.

**Suspended munitions**

Munitions removed from issue, movement, test, and use with or without limitations. These are removed because of a suspected or known unsafe or defective condition. Reference TB 9–1300–385 for definitions and instructions on suspensions, restrictions, and release of ammunition.

**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 test support package**

An assemblage of support elements provided prior to and used during development and OTs to validate the field and sustainment maintenance requirements and capability. The maintenance test support package includes all required draft equipment publications (operator through sustainment maintenance equipment manuals); parts accessories; special and common tools; test, support, calibration, and maintenance shop facilities; and personnel skill requirements.

**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.

**System peculiar test, measurement, and diagnostic equipment**

TMDE dedicated to peculiar test and repair of a single materiel system or item of equipment.

**Tentative source of repair**

SOR decision made by the MATDEV prior to the data being available for a detailed cost based analysis. Based on the combat developer’s maintenance concept and other judgment factors. The tentative SOR will be used for early depot workload planning but is subject to change as the system is developed. The tentative SOR decision will be replaced by the preliminary SOR decisions as soon as the data are available to do an analysis using the decision-tree methodology.

**Test program sets**

The combination of interface devices, software test programs (such as those residing in logic storage media or in permanent digital memory), and documentation (for example, TMs and technical data packages) that together allows the automatic test equipment operator to perform the testing/diagnostic action on the UUT.

**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/or 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 TMDE—general purpose and TMDE—special purpose.

**Theater provided equipment**

Permanent theater equipment that has been identified, collected and positioned forward to offset equipment deployment requirements, fill shortages, fill DA approved operational need statements or to fill theater-validated Minimum Essential Equipment Lists.

**Unique item identifier**

The UII is a globally unique and unambiguous identifier that distinguishes an item from all other like and unlike items. The UII is a concatenated value that is derived from a UII data set of one or more data elements. For DOD purposes, a compliant UII is either a Construct 1, Construct 2, global individual asset identifier, serialized global returnable asset identifier, vehicle identification number, or electronic serial number (for cell phones only), all of which have their data elements encoded in a DOD compliant two-dimensional data matrix.

**Unit identification code**

A six-character code assigned to a specific unit.

- a. All units, organizations, and activities will use their own UIC.
- b. Contractors, manufacturers, and commercial activities do not have UICs. They will use the five-digit commercial and government entity code prescribed by SB 708–43. Put the letter “K” in front of the FSCM. For example, General Motors FSCM 24617 will be turned into a contractor UIC, K24617.

**Unit maintenance shop**

Facility located in conjunction with a USAR center; unit training and equipment site; a maintenance facility located in conjunction with a USAR center.

**Unit training equipment sites**

An ARNG TDA maintenance facility which provides full-time field maintenance support to ARNG equipment assigned to the site.

**Unsafe condition**

An occurrence of hazard severity Category I or II or MIL-STD-882E. This includes the conditions that cause loss or serious damage to the end item or major components, loss of control, death, serious injury, or illness.

**User representative**

The combat developer designated to represent the user in development and testing of new or improved systems.

**Winterization and/or winterized**

The application or installation of auxiliary kits and/or equipment which may include engine pre-heaters, personnel heater kits and hardtop or insulated closures necessary to pre-heat and start equipment within one hour and maintain a temperature of 41 Fahrenheit in troop compartments when in a temperature range of -25 Fahrenheit to -50 Fahrenheit. Also includes the use of arctic grade lubricants and fluids for engines, transmissions, gear cases and other assemblies as necessary.



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